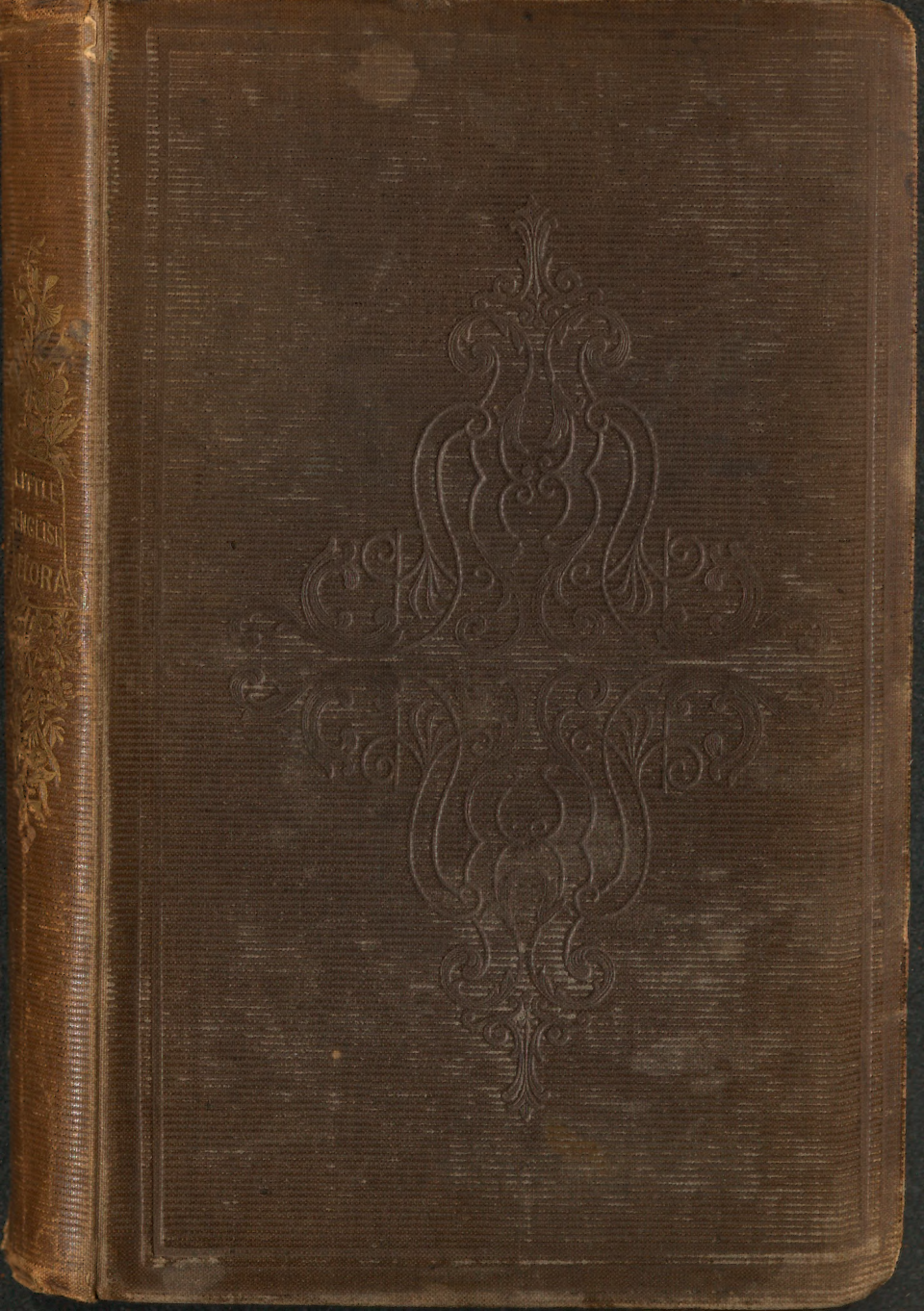

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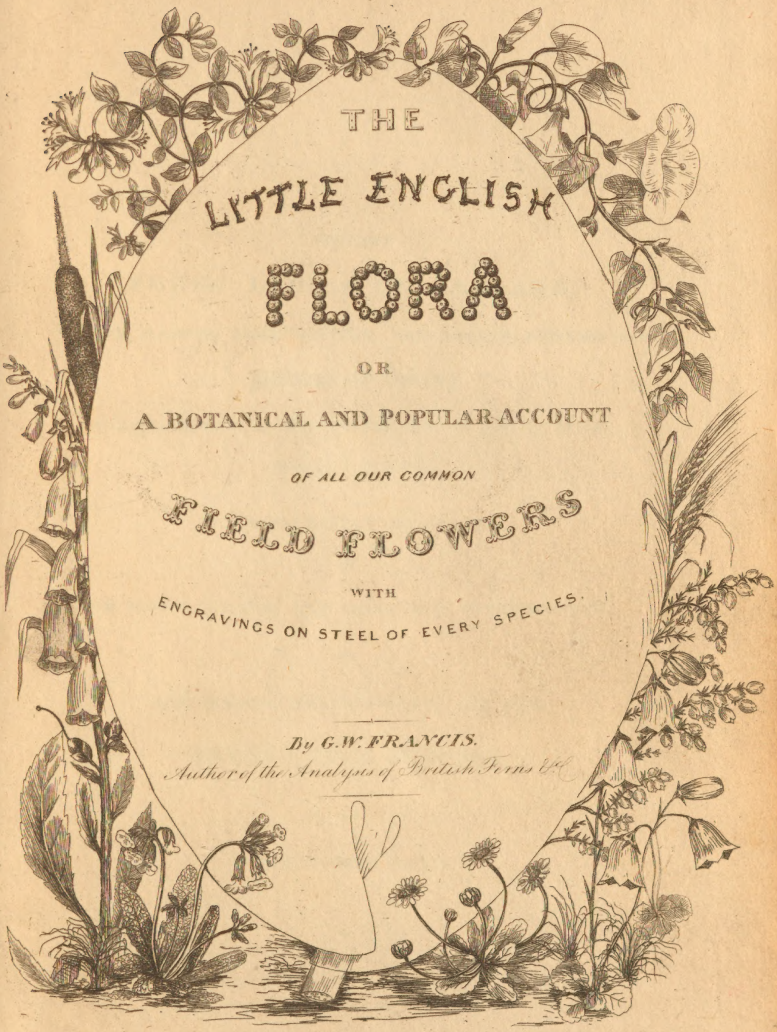

THE LITTLE ENGLISH FLORA

OR

A BOTANICAL AND POPULAR ACCOUNT

OF ALL OUR COMMON

FIELD FLOWERS

WITH

ENGRAVINGS ON STEEL OF EVERY SPECIES.

By G. W. FRANCIS.

Author of the Analysis of British Ferns &c.

London.

SIMPKIN, MARSHALL & CO. STATIONERS COURT.

DARTON & HARVEY, GRACECHURCH STREET.

1839.

TO THE

YOUNG LADIES OF ENGLAND,

WHOSE HABITS, SENSIBILITIES, AND TASTES, RENDER THE

Science of Botany

SO PECULIARLY A PROPER OBJECT OF THEIR STUDY,

THIS WORK

IS RESPECTFULLY DEDICATED,

AS

AN ENTERTAINING AND SCIENTIFIC INTRODUCTION

TO

THE SIMPLE, THE ELEGANT, AND THE

SWEET LITTLE FLOWERS

OF

OUR NATIVE LAND.

PREFACE.

K-080

The very favorable reception which my "Analysis of the British Ferns" has received from the Public, induces me to offer the present little introductory work to their notice; believing that such a one has been long wanted, and now that the study of Botany has become so fashionable, one which is imperatively called for.

My object is first to invite the young to the examination of the "Flowers of the Field," by pointing out the beauties they are likely every where to meet with; that thus an additional charm may be added to their rambles over the meads and commons. Secondly, to induce a love for the science itself, by showing that it is easy of acquirement, and that it yields instruction and delight, not merely in our after progress, but even from our first commencement of its study.

I write also for the use of Invalids, who, requiring a sufficient inducement, too often neglect to take that exercise which would invigorate their health, both of mind and body: and for Parents, Instructors, and others, who, without having time or inclination for deep and long-continued study, yet desire to know somewhat of our native Plants. Should any of these have hitherto

been deterred from Botany, believing it to be only a detail of minute characters and difficult terms, this trifle may show them that it may be made subservient to high moral and religious uses.

These important purposes I have endeavoured to accomplish, by giving a plain scientific and popular description of all our common Wild Plants; accompanying these with accurate steel Engravings of every species; and introducing such Anecdotes, Remarks, and Extracts, as the various subjects have suggested: thus striving to win rather than to demand the attention, and to present these little favorites in the alluring garb with which Nature has herself invested them, rather than in the mysterious and repulsive habit in which they are too often described; and to smooth as much as possible the study of Botany, the work is introduced by an account of the Linnæan System, and the rules for collecting, drying, and naming Plants in general, accompanied with a full Glossary of all the terms employed; and terminates with Three Indexes and an Appendix of the more difficult tribes of Flowering Plants, and of all the Cryptogamic orders.

How these objects have been accomplished Botanists will best determine. I cannot expect that all of them will agree in calling such plants as are described the commonest which Britain produces; on the contrary, perhaps each one may think it better that I should have excluded some and introduced others. Such opinion depends upon the neighbourhood he may reside in, and therefore upon this subject I can only appeal to his candour, and if I have leaned somewhat to the South rather than to the North of the Empire, it has been because vegetation

is more varied, and because the young direct their summer visits, whether for pleasure or for health, more to the warm coast and flowery fields of Kent and Sussex than they do to Scotland or to the mountainous parts of England. For some few Plants introduced I cannot plead their frequency anywhere, but I have ventured to introduce them on even higher grounds: either for their great value, their brilliant beauty, or their singular structure, such are the Flax, the White Water Lily, the Sundew, and the Orobanche.

Another explanation also I owe to the Botanist, who will directly observe that where but one species occurs under each genus, no specific characters are given: it is because such are not necessary, and the omission will often drive the student more to the generic differences, which are much more useful. In these cases however, the description is given, except in such plants as are so well known as to need none, such as the Daisy, the Holly, and the Sloe.

The Plates are necessarily very small, but this was unavoidable, as will be apparent when it is considered that there are two hundred and eighty Plants represented, and to have engraved them on a larger scale would have made the work too expensive for general circulation.

The Poetical Extracts often appear without a name, they are not however on that account to be considered original, I lay no claim to them as such, except perhaps a few, and the only reason the writers' names do not in every instance appear, is because many of the lines have been given to me at some distant times, and I know not from what source they were taken, or I should certainly have given credit where credit is due.

My hopes in this little work are that it may be considered useful, and if at some future time I should learn that it has induced but one person to apply to the study of Botany, or imbued the mind of a single individual with a relish for the simple beauties of Nature, the time devoted to it will have been well employed.

G. FRANCIS.

55, *Great Prescot Street.*

INTRODUCTION.

USES AND ADVANTAGES OF BOTANY.

Botany seems more fitted for the young than any other science, on account of the very valuable knowledge it imparts, the innocent amusement it yields, and the moral and religious influence it exerts over the mind. Its utility will not be for a moment doubted when we reflect on the numberless benefits mankind derive from plants. We apply to them for some of the most valuable medicines, for the materials and colors for clothing, cordage and sails for shipping, timber for building, the entire subsistence for cattle, the chief delicacies of the table, and most of the necessaries of life—not only "wine which cheereth the heart of man, but bread which sustaineth his strength." Plants, too, are of the highest importance in tempering the climate of the world, and in purifying the atmosphere; by the shelter they afford, the rain which they assist in producing, the moisture which evaporates from their leaves, the noxious gasses which they absorb, and the purer ones which they give in return. Is amusement our pursuit? Botany affords it in every step of our progress. The love of flowers seems implanted in our very nature—they seem, as Rousseau says, to "grow beneath our feet, as if to invite us to their contemplation." They are indeed scattered around us, to be seen by every eye, and gathered by every hand. The tottering infant plucks the little gold-eyed Daisy—the child is seen with his pinafore filled with Butter-cups—the lover sends Roses to his mistress—the nobleman has his gay parterre—the cottager his little flower garden—the denizen of the city fills his apartments with his favorite plants—and even the

humble occupant of a garret decorates his only window with some one of these simple beauties of nature. It is true that he may know nothing of flowers, but their beauty and their fragrance; and yet admire them. How much more so the botanist, who, knowing that the smallest weed is not beneath his care, examines their structure,—learns the uses to which they are and may be applied,—the country, situation, and soil, where they naturally grow—their connection with others in the great scale of nature, and the poetical images connected with them. By a study like this, not only his mind imbibes the most valuable information, but is soothed with pleasing and beautiful associations.

Botany has advantages on many other accounts. Rambling over the fields, in the necessary search for the little gems that grow there, invigorates the health both of body and mind, and tranquillizes the feelings, while the examination of the plants thus collected, tends much to quicken the faculties, improve the memory, induce habits of order and neatness, and above all it leads the mind to contemplate that Great Being who fashioned, and who spreads over the whole earth these ever-varying and splendid objects of His power and His goodness. For, as is justly remarked by that elegant poetess, Miss Twamley, "flowers form one of the sweetest lines in the *God-written* poetry of nature, as one of the universal blessings accessible to all nations, climes, and classes—blessings in their own loveliness alone, and in the pleasure ever derivable from the contemplation of loveliness, but trebly blessing us in the familiar and beautiful power they possess of awakening in our hearts feelings of wonder, admiration, gratitude, and devotion—teaching us to look from earth to Him who called it into existence, and to feel how worthy of our unceasing, thankful adoration must be that Being, the meanest of whose creations is so wonderfully and so beautifully adapted to its appointed portion in the vast whole."

METHOD OF STUDYING BOTANY.

Botany must be learnt more from plants than from books, and is so easy that it begins to amuse us directly we commence the study of it, if this be done in a proper way. The different parts of plants have different names, according to their shape, situation, or uses. A few of these must first be committed to memory, so that the student may have some idea of how a plant is formed, and how to distinguish one part from another. For this purpose he may get Nos. 179 and 181* of the "Library of Useful Knowledge," costing one shilling, or else the "Elements of Botany," for families and schools, published at two shillings—both of which books are excellent, particularly the last. Then let him turn to the explanation of the Linnæan system, (at page vii;) and having read this over carefully, he may at once try to find the name of any common wild plant he meets with. And this will be very easy if he proceeds as follows:—He must first look to the stamens, to see what class it belongs to, then to the styles to know its order, then looking over the genera which belong to that order, and comparing his plant with them, he will see with which it agrees, and thus he will learn one of its names—then in the proper page, the different species are described, and his plant being found to agree with only one of them, he has thus found out its other name. Should he be in any doubt, he must refer to the plate *last*, to see if that and his specimen agree with each other.

Suppose, for example, he has an unknown flower, which from having ten stamens is found to be of the tenth class; also, having five styles it is referred to the fifth order; turning to the 46th page, we find that this order is in two divisions, and the calyx being of one leaf, it is seen to be of the first

* There are six numbers of this work all upon the subject of Botany. These are Nos. 179 and 181, treating of the structure of plants—184 and 185 on their physiology—223 and 226 on the arrangement in genera, &c. &c.

division—its petals are cleft at the top, by which it is known at once to be of the genus *Catchfly*. To find which of these we must refer to page 51, where the three common species of Catchfly are described. The last two have stamens and pointals in different plants; in our plant they are together—it is not, therefore, either of them. The other has its petals four-cleft, and its flowers in a loose head, so has our plant. The name of this then, that we are in search of, and which but five minutes since was quite a stranger to us, is now known to be RAGGED ROBIN, or *Lychnis Flos-cuculi*. This we shall be the more sure of by reading all the description, and comparing each part with it, and to remove all doubt, plate 6, fig. 1, will be found to represent the plant in question.

By proceeding in this way, we shall soon learn to know by sight most of our common native plants, and be surprised at the ease of the examination, and the pleasure which it will yield us.

ON GATHERING PLANTS FOR SPECIMENS.

Most persons are too careless in gathering plants. Some nip off the top of the shoot only—others do not think of preserving the seed vessel, or the root—some do not even look if the plant has different sorts of leaves at the upper and lower part of it. This carelessness is unpardonable, for a good specimen should show every part of a plant—its root, its root leaves, and stem leaves—its flowers, past, open, and in bud—its seed and seed vessel in their different states. Thus in gathering flowers for preservation let all these things be regarded, and, if possible, collected together upon the same specimen, which will then not only show the plant in all its characters, but look much more beautiful; besides which the parts most likely to be neglected, will often be found of the greatest necessity in telling from each other the different species of difficult or numerous families. When it happens

that flowers and leaves are produced at different seasons of the year, as in most timber trees, in the Colt's-foot, &c., the flowers should at the proper time be collected, ready to be joined to the leaves afterwards, thus it is also with fruit, and often with seed, that ripens at a later period of the year—each must be procured at the right time, and placed side by side of each other afterwards.

DRYING, PRESERVING, AND ARRANGING SPECIMENS.

Nothing is more easy than this—it only requires a little attention, and may be done without any doubt of success, even by those who have never tried the process. First, be careful to gather the specimens when dry, they may be brought home in the hand as a nosegay, or, what is much better, put into the crown of the hat, or in a tin sandwich box. Then taking up each specimen singly, lay it smoothly between the leaves of a large book, or several sheets of common paper—then another specimen a few leaves distant, and so on till the book is full—this done, tie it up tightly with a string, and put a weight upon it, (such as a flat iron or two.) Thus the plants are to remain for a day, and then changed into a fresh book, to dry them still more, and so on for four or five days—when they will all be found dry, of good color, and fit to put away.

Some few plants require a different treatment. In thick stalked and woody plants the under-side of the stem is first to be cut away. Berries must be dried by being hung up in the sun or air. The Stonecrop and House-leek, as well as the Heaths, must be dipped for three or four minutes in boiling water, before laying out—if this be not done the juicy plants will grow even for a long time after they are placed in the papers, and the leaves of the Heaths will soon fall off; also, Water Plants are better for being laid between folds of calico for the first day. In drying plants blotting paper has been considered the best, but any paper will answer the purpose,

that of which books are made, or brown paper, will do as well as any other.

Dried plants are very subject to be devoured by insects, if kept in a damp place; and some persons to prevent this wash them over with corrosive sublimate, dissolved in water—but besides this being a very violent poison, and therefore dangerous to handle, it is quite unnecessary, a little alum water being quite as good. The best way to manage herbariums thus infested is to spread out the various plants to the sun and air, for a day or two, though if well dried, and kept so afterward, the plants will not be injured. In my herbarium I scarcely ever see an insect, and yet the specimens have never been washed with any thing whatever.

When the specimens have been properly dried they may be arranged, and this should be according to some system, as for example the Linnæan classes and orders; and that it may be done most conveniently, and look the best, each plant should be fastened to a separate piece of paper, in the following manner:—Wash over a sheet of paper with thick gum water, the thicker the better, and let it dry perfectly, then cut this into various-sized strips, which will form bands to fasten on the plants with. Thus furnished with materials, place the dried specimen upon the paper intended for it, take up a proper-sized strip of gummed paper, and having wetted the gummed side of it with the end of the tongue, place it across some part of the specimen, then another in another place, and so on till the whole is properly fixed. Some persons glue their specimens down, others sew them on, but the above method is far superior to either, and is much less troublesome. Nothing now remains but to write on the top of the paper where the specimen is fastened, the Linnæan class and order, and also the Natural order; and at the bottom of it the various Latin and English names, and the place where the specimen was gathered.

ON THE PRONUNCIATION OF TERMS.

Latin words are sounded mostly like English, except that *ch* is sounded like *k*, and when the letter *e* ends a word, it must be sounded distinct, thus *Si-le-ne*. Also, when *es* ends a word, it forms a separate syllable, as *mi-tes*, and not *mites*. When *ea* ends a word, the letter *e* is long and distinct, as *car-ne-a*, and not *carn-e-a*, the *e* being sounded as in the English word *idea*. The letter *a* ending a word is sounded like *er*, as it is at the end of the word *Asia*. *Ge*, or *gy*, when in Greek words, or words derived from Greek, are sounded hard, as in the word *begin*; thus in *ge-um*, and *Monogynia*, it is thus sounded, otherwise the sound of *g* is the same as in English.

THE LINNÆAN SYSTEM.

Linnæus, the Swedish botanist, who lived about one hundred years ago, observed that although there were many plants without leaves—others without stems, or calyces or corollas, yet that there were none which bore flowers at all, which had not stamens and pointals within those flowers, and thus he thought that organs so universal as these are, might be useful in dividing plants into certain classes. Following up this idea he formed his celebrated system. First, as the easiest mark of distinction, he considered the number of stamens—when they were all of the same length, and this simple character gave him the first eleven classes. In the two next their position as well as number was taken. In the two next their length is of consequence. In the five next they are joined together. In classes 21, 22, and 23, the flowers do not contain both stamens and styles. While the whole system concludes with a class, which contains all those plants bearing seed, without having first produced flowers. The different classes with their names and characters are seen in the following

TABLE OF THE CLASSES.

Number of Stamens.

(Plants in this division and the next have all their stamens of the same length, and distinct from each other.)

No.	Name.	Character.
1....	MONANDRIA	Flowers with 1 Stamen.
2....	DIANDRIA	,, 2 Stamens.
3....	TRIANDRIA.....	,, 3 ,,
4....	TETRANDRIA	,, 4 ,,
5....	PENTANDRIA	,, 5 ,,
6....	HEXANDRIA	,, 6 ,,
7....	HEPTANDRIA	,, 7 ,,
8....	OCTANDRIA	,, 8 ,,
9....	ENNEANDRIA	,, 9 ,,
10....	DECANDRIA	,, 10 ,,
11....	DODECANDRIA ..	,, 12 ,,

Number and Position of Stamens.

12....	ICOSANDRIA	more than 12, placed upon the calyx.
13....	POLYANDRIA	,, not ,,

Number and Length of Stamens.

14....	DIDYNAMIA	Stamens 2 long and 2 short.
15....	TETRADYNAMIA ..	,, 4 2 ,,

Stamens united together at the lower part.

16....	MONODELPHIA ..	Stamens in 1 bundle.
17....	DIADELPHIA	,, 2 bundles.
18....	POLYADELPHIA ..	,, many bundles.

Stamens united together at the upper part.

19....	SYNGENESIA	Stamens distinct from the style.
20....	GYNANDRIA	,, united to ,,

Stamens and Styles in different Flowers.

21....	MONOECIA.....	Stamens and styles on the same plant.
22....	DIOECIA.....	Stamens and styles upon different plants.
23....	POLYGAMIA	Some flowers perfect, others with stamens only.

Stamens and styles wanting.

24....	CRYPTOGAMIA	Plants without flowers.

THE ORDERS.

An order is the first great division of a class, and as stamens distinguish the classes, so the styles denote the orders; at least in the first thirteenth classes. In those which come after the thirteenth, other parts are used for this purpose, and in some of them even the stamens themselves, when not wanted to tell the class. This will be rendered plainer by the

TABLE OF THE ORDERS.

Applied to the first 13 *Classes.*

MONOGYNIA....	1 Style.	PENTAGYNIA ..	5 Styles.
DIGYNIA	2 Styles.	HEXAGYNIA ..	6 ,,
TRIGYNIA	3 ,,	DODECAGYNIA	12 ,,
TETRAGYNIA ..	4 ,,	POLYGYNIA ..	many ,,

Applied to Class 14.

GYMNOSPERMIA	Seeds naked, or apparently so.
ANGIOSPERMIA	Seeds inclosed in a capsule.

Applied to Class 15.

SILICULOSA	Seeds in a short pod, or pouch.
SILIQUOSA	Seeds in a long pod.

Applied to Class 19.

POLYGAMIA ÆQUALIS	All the florets with stamens and styles.
POLYGAMIA SUPERFLUA ..	Outer florets with styles only.
POLYGAMIA FRUSTRANEA..	Outer florets without either stamens or styles.

While in all the other classes, that is, in the 16, 17, 18, 20, 21, 22, 23, the number of the stamens not being wanted to tell the classes, they are used as marks of the orders, with the same names as the classes themselves—thus, here Monandria means the first order, but before it meant the first class.

This may appear puzzling, and really is so to those who use numbers and not names; and the student is strongly recommended not to use numbers for the classes and orders, for these mean nothing; but the Greek names of them signify the same in all situations, and moreover express some circumstance relating to the plant.

For example, if we speak of a plant of the fourteenth class and first order, we are not reminded of any thing respecting it, but if we speak of it as belonging to class Didynamia, and order Gymnospermia, we learn that there are in it two long and two short stamens, and that the seeds are not in a capsule, for these terms signify as much. Again,

The 3rd order of class 3 is called TRIGYNIA, and has 3 styles.

,,	4	,,	TETRAGYNIA,	4	,,
,,	12	,,	POLYGYNIA,	many	,,
,,	13	,,	HEXAGYNIA,	6	,,

Thus saying that such or such a flower is of the third order, means nothing, for it may have three, four, six, or many styles—but to say it belongs to order Trigynia, or Tetragynia, &c., shows at once partly the nature of it, for if it belong to Trigynia it must have three styles, and if to Tetragynia it must have four styles, and so on for the others.

EXPLANATION OF TERMS.

ANNUAL PLANTS—That live but one year.

ANTHER—The knob that contains the pollen on the top of a stamen.

AWN—The beard of grasses, as in Barley.

AXIL—The part where a leaf joins a stem.

AXILLARY—Growing out of an axil.

BEAK—A long point at the top of a seed or seed vessel.

BERRY—A fleshy fruit, with seeds scattered about in it.

BIENNIAL—Plants living at most two years.

BRACT—A small leaf growing near the flowers.

BRISTLES—Stiff hairs.

CALYX—The flower cup, or the green cup in which the rest of the flower is folded up before opening.

CAPSULE—A seed vessel, thin and dry when ripe, as in the Poppy.

COMPOUND—Several things joined together.

CORDATE—Heart-shaped.

COROLLA—The colored part of flowers, between the calyx and the stamens, as the red leaves of the Rose.

CORYMB—A flat bunch of flowers, the stalks of which grow out of different parts of the stem, as in the Hawthorn.

CRENATE—Cut into round notches, or scollops.

CRUCIFORM—Formed like a cross.

CYME—A flat bunch of flowers, the stalks of which grow out of the same part of the stem, as in the Elder.

DENTATE—Toothed. Leaves are often dentate.

DRUPE—A fleshy fruit, with a stone in the middle, as the Plum, Cherry, &c.

FILAMENT—The thread-like part of a stamen.

FLORETS—Little flowers. Only used when a number of little flowers are joined together upon one receptacle, as in the nineteenth class.

FROND—the leaf-like part of the Ferns, &c.

FOOT-STALK—The stalks of flowers or leaves.

HABIT—Means the general appearance of a plant.

HASTATE—Shaped like a halbert, as in the smaller Bindweed.

HERB—A plant which dies down to the root every winter.

IMBRICATE—Overlapping, like the tiles of a house.

INDIGENOUS—Growing naturally in a country.

INFLORESCENCE—Manner of flowering.

LABIATE—Lipped, like the flowers of the fourteenth class.

LANCEOLATE—Lance-shaped, a long oval, narrow at both ends. This is a very common shape of leaves, as in Lance-leaved Plantain.

LAMINA—The thin, flat part of a leaf.

LATERAL—Growing on the side.

LEAFLETS—The small parts of a compound leaf.

LEGUME—A kind of seed vessel, a pod, as in the Pea.

LEGUMINOUS—Plants which bear legumes, or pods.

LINEAR—The shape of a narrow leaf, which is of the same width nearly all the way down.

LIPPED—Having one or two lips. (See Labiate.)

LOBE—The different parts of a partly-divided leaf, &c.

LYRATE—A leaf is called lyrate, when it has at the end a large, rounding lobe, and at the sides two or three narrow, small, oblong lobes, as in the Wall Lettuce.

MIDRIB—The centre large vein of a leaf.

MUCRONATE—Ending in a point.

NUT—A hard, stony seed vessel, containing a kernel.

OBLONG—Oval and blunt at both ends.

OBTUSE—Blunt at the end.

OVATE—Egg-shaped, blunt at one end and sharp at the other.

PALATE—The mouth of a personate flower.

PAPILIONACEOUS—Shaped like a butterfly.

PAPPUS—The feathery crown to some seeds, as in the Dandelion.

PARASITICAL—Plants fixed to and living upon others.

PEDUNCLE—The stalk of a flower.

PERENNIAL—Plants which live for many years, as trees do.

PANICLE—A loose, branched bunch of flowers, as in Oats.

PERSONATE—Lipped flowers, closed up at the mouth, as the Snapdragon.

PETALS—The different leaves of a corolla.

PETIOLE—The footstalk of a leaf.

PINNATE—A name given to a compound leaf, as in the Tare.

PINNATIFID—A leaf deeply divided into many lobes.

POINTAL, or PISTIL—The centre part of the flower, formed of the seed vessel at bottom, and style at top.

POLLEN—The fine dust contained in the anthers.

POME—A kind of fruit, fleshy outside, and having a capsule within, as in the Apple and Pear.

RACEME—A long bunch of stalked flowers.

RADICAL—Proceeding from the root.

RECEPTACLE—That part of a flower upon which all the other parts are fixed.

RINGENT—Lipped flowers which are gaping, as in the White Nettle.

ROTATE—Shaped like a wheel, as the flower of Speedwell.

RUNCINATE—A leaf that is cut into teeth, hooked backwards.

SAGITTATE—Shaped like an arrow.

SERRATE—Toothed like a saw.

SESSILE—Sitting, or without stalks.

SILICLE—A small, round pod, or pouch.

SILIQUE—A long, tapering pod.

SPIKE—A long, close bunch of flowers without stalks.

SPUR, or HORN—A part of the corolla of certain flowers.

STAMEN—The thread-like bodies within the corolla. They consist of two parts—the filament, or thread; and the anthers, or top.

STIGMA, or STYLE—The upper part of a pointal.

TENDRIL—The claspers, that certain plants cling hold of any thing with.

TERNATE—Growing together in threes.

TOOTHED—Cut so as to resemble teeth.

UMBEL—Is when flowers spread out like ribs of an umbrella.

VERNAL—belonging to the Spring.

WHIRL, or WHORL—Several flowers, or leaves, growing in a circle round a stem, as the leaves of the Goose-grass, and the flowers of the Dead Nettle.

"Nature never did betray
The heart that loved her; 'tis her privilege,
Through all the years of this our life, to lead
From joy to joy; for she can so inform
The mind that is within us, so impress
With quietness and beauty; and so feed
With lofty thoughts, that neither evil tongues,
Rash judgments, nor the sneers of selfish men
Shall e'er prevail against us, or disturb
Our cheerful faith that all which we behold
Is full of blessings."—WORDSWORTH.

THE LITTLE

ENGLISH FLORA.

CLASS 1.—MONANDRIA.

(Containing Plants with only One Stamen.)

Only three of the British plants belong to this class, and these are not common. One of them, Mare's-Tail, is found in ditches, and has its flowers and leaves in whirls, eight or ten together. The other plants, called Marsh Samphire, grow on mud, near the sea, they are light green in color, fleshy, without leaves, and are often sold and cut up for pickling.

CLASS 2.—DIANDRIA.

(Containing Plants with Two Stamens.)

Forty British plants belong to this class. Some of them are very rare. Among those not here described are the curious Bladder-wort, the roots of which are furnished with little air bags, or bladders, that keep the plants floating on the top of the water where they grow. The Butter-wort, so called from the greasy feel of the leaves. The Duck-weed, which covers abundantly our ditches and ponds, and affords shelter for thousands of insects. The Ash Tree, one of the most useful timber trees, and so elegant in form and lightness that it is sometimes called "The Queen of the Groves."

> "All know that in the woods the Ash reigns queen,
> In graceful beauty soaring to the sky."

Besides these is the Sweet-scented Vernal-grass, which gives such a delightful odour to new-mown hay.

Order 1. *MONOGYNIA.* 1 *Style.*

PRIVET (*Ligustrum.*) Corolla under the fruit, of one petal, cut at the edge into four equal parts; berry with two cells.

SPEEDWELL (*Veronica.*) Corolla under the fruit, of one petal, cut into four parts, the lower of which is the narrowest.

GIPSY-WORT (*Lycopus.*) Corolla under the fruit, of one petal, cut into four parts, the upper one notched; calyx five-cleft.

SAGE (*Salvia.*) Corolla under, two-lipped; calyx two-lipped.

ENCHANTER'S NIGHT-SHADE (*Circæa.*) Corolla upon the fruit, of two heart-shaped petals; calyx two-leaved.

PRIVET. *LIGUSTRUM.*

COMMON PRIVET, OR PRIM-PRINT. *Ligustrum vulgare.*

Plate 1—*Fig.* 1.

This delicate shrub adorns almost every garden hedge, in the Summer with its little bunches of sweet-smelling white flowers; and in the Winter, with its grape-like clusters of black, glossy, round berries, which, though bitter and unpleasant to our taste, are eaten readily by the bullfinches and blackbirds. In some cottage gardens the Privet may be seen trimmed into curious forms, and as it retains its leaves all the Winter, it forms one of the neatest and prettiest ornaments of our hedge-rows.

fl. June & July

SPEEDWELL. *VERONICA.*

THYME-LEAVED SPEEDWELL. *Veronica Serpyllifolia.*

Plate 1—*Fig.* 2.

Leaves opposite, smooth, blunt. Flowers in terminal spikes.

A neat little plant, growing about three or four inches high, and creeping over the ground on banks and roadsides. The upper division of the flowers is of a light blue color, with five purple stripes. The other divisions are white, with from one to three purple stripes. The seed vessel is heart-shaped, and brown when ripe. In flower from April to July.

BROOK-LIME SPEEDWELL. *Veronica Beccabunga.*

Plate 1—*Fig.* 3.

Leaves opposite, smooth, ovate. Flowers in lateral spikes.

PLATE. I

The leaves and stem are fleshy, and light green in color. The stem throws out roots at all the lower joints. The flowers are of a dark blue, with three or four still darker streaks in each part of the corolla. Blossoms in May, June, and July, and is found mostly in running water, along with water cresses and similar plants, with which it is sometimes eaten.

GERMANDER SPEEDWELL. *Veronica Chamædrys.*
Plate 1—*Fig.* 4.

Leaves opposite, sessile, cordate, serrated. Fl. in lateral spikes.

This very beautiful plant is a general favourite, found in the spring at the bottom of almost every hedge-row. Its large corollas are of the most vivid blue, with a pure white centre, but so short lived that we can scarcely carry home or dry the plant without losing them all. They close up also at night, or before rain comes on, and open again when the shower is past. The leaves are hairy, strongly veined, and without stalks. The stem has two rows of hairs along it, at opposite sides, but the flower stems are hairy all round—capsule shorter than the calyx. Some take this for the 'Forget-me-not,' a different plant, but not more beautiful than the present. *fl. May & June*

"Not for thy azure tint, though bright,
Nor form so elegantly light,
I single thee, thou lovely flower,
From others of the sylvan bower.
Thy name alone is like a spell,
And whispers love in 'Speed thee well.'"

COMMON SPEEDWELL. *Veronica officinalis.*
Plate 1—*Fig.* 5.

Leaves opposite, stalked, ovate, serrate. Fl. in lateral spikes.

This is quite as frequent on sandy commons and dry banks, as the last is in hedge-rows, but is not so beautiful in color, nor so delicate in form. The stem is procumbent and hairy all over. The leaves opposite, ovate, shortly stalked, and hairy. The young flowers are pink, afterwards changing to a purple, striped with a still darker color, with purple stamens, and not above half the size of those of V. Chamædrys. The ripe capsule is also very different, being deeply notched at the top, and when ripe longer than the calyx. It flowers in the spring and summer.

May & June

IVY-LEAVED SPEEDWELL. *Veronica hederifolia.*

Plate 1—*Fig.* 6.

Leaves alternate, all stalked, cordate, lobed. Flowers solitary.

Common in fields, banks, &c. Flowering in April and throughout the summer. Stem procumbent and hairy, as are also the leaves, but the hairs of all the parts are very fine, so that the plants will often appear nearly smooth. The calyx is very large—each division of it heart-shaped. Flowers very long-stalked, and bent downwards when in fruit. Corolla small, pinkest purple, striped with a darker color, stamens yellow. Capsule round, swelled out, and smooth, with a very short style at the top. It contains four black, wrinkled, shell-shaped seeds.

O. S. Spiked Speedwell, an upright plant of Cambridgeshire and Suffolk; Alpine Speedwell—Blue Rock Speedwell, and Flesh-colored Speedwell are found only on the Scottish mountains; Marsh Speedwell and Water Speedwell, grow in damp places—Mountain Speedwell in woods; Field Speedwell—Wall Speedwell—Blunt Fingered Speedwell, and Vernal Speedwell, which are annual, the two former common, the other two very rare.

GIPSY-WORT. *LYCOPUS.*

GIPSY-WORT or WATER HORE-HOUND. *Lycopus Europæus.*

Plate 1—*Fig.* 7.

It has its first name because the leaves, when boiled, yield a chesnut brown color, which it is said the gipsies use to stain the skin of the children they steal, that they may appear as dark as their own. It grows commonly in shallow ponds and ditches, and is directly known by its square stems, small, whitish, whirled flowers, set in the bosom of the upper leaves, which are deeply cut, and, as well as the branches, opposite.

SAGE. *SALVIA.*

WILD SAGE. *Salvia Verbenaca.*

Plate 1—*Fig.* 8.

There are nearly two hundred species of Sage, all of which have gaping flowers, like the plants of the fourteenth class. Two species grow in Britain, one of them, Salvia Pratensis, is very rare—the other, called Wild Clary, or Wild Sage, is common on dry places and in meadows. Its leaves are a little wrinkled, scolloped, and serrated. The flowers are in whirls on the upper part of the stem, each whirl with two small leaves

under it. The calyx is large, hairy, and cut into five notches—two of which are much deeper than the others. The blossom is small, violet colored, two-lipped, but not opening wide. The plant grows one or two feet high, and may be found in flower almost all the summer. June & July

ENCHANTER'S NIGHT-SHADE. *CIRCÆA.*

COMMON ENCHANTER'S NIGHT-SHADE. *Circæa lutetiana.*

Plate 1—*Fig* 9.

Has very pretty and curious pink and white flowers. It grows in shady places, such as hedge-rows and woods—flowering in June, July, and August. The leaves are egg-shaped, a little toothed. Calyx of two leaves, which are turned back. Blossom of two heart-shaped petals. Flower stalks bent downwards when in fruit. Plant is more or less hairy all over, particularly on the upper part of the stem and on the calyx, the hairs of which resemble little hooks.

O. S. Alpine Enchanter's Night-Shade, found in the North of England.

CLASS 3.—TRIANDRIA.

(Containing Plants with Three Stamens.)

This class is more extensive than the two former and very important, as it contains almost all the grass tribe, among which are wheat, barley, oats, millet, and the sugar cane. The grasses that grow wild in this country are about one hundred and twenty species, and are very difficult for the young botanist to know from each other.

Order 1. *MONOGYNIA.* 1 *Style.*

VALERIAN *(Valeriana.)* Calyx very minute, changing into a feathery crown to the seed; seeds single.

CORN SALAD *(Fedia.)* Calyx very minute, not changing into a feathery crown; seeds three in a capsule.

CORN FLAG *(Iris.)* Blossom six cut, three parts turned down; style three cleft, colored, covering the stamens.

VALERIAN. *VALERIANA.*

Great Wild Valerian. *Valeriana officinalis.*

Plate 1—*Fig.* 10.

Found in blossom in summer by the sides of rivers and in shallow ditches. Grows three or four feet high, and bears heads of whitish pink flowers. The corolla is tubular, five cleft at the edge, and swelled on one side of the base. The leaves are opposite, and all very deeply cut or divided. The seed is very beautiful, and affords a proof in how wonderful a manner the Great Creator has provided for the wants even of a simple plant. The calyx is at first so small as to be scarcely visible, but by degrees expands into a beautiful feathery head or pappus that remains at first carefully coiled up, but when the seed is ripe and the weather fine the feathers expand like the ribs of a parasol, and the seed is carried away by the wind until it finds some fit resting place, when the crown falls off, and it directly begins to grow. The root is sweet in smell, but bitter in taste. Cats and rats are very fond of the scent. The whole plant is quite smooth, and is useful in medicine, for this reason it is called Valerian, which means to cure or to be well.

O. S. Red Valerian—Small Marsh Valerian, and Heart-leaved Valerian. The first of these has but one stamen, it is often found on the chalky cliffs and rocks of Kent, and cultivated in gardens, under the name of "Red Valerian, or Pretty Betsey," is generally of a fine red, but now and then of a white color. The next, Small Marsh Valerian, has stamens in one plant and styles in another. The last, a fine tall plant, is confined to the woods of Scotland.

CORN SALAD. *FEDIA.*

Common Corn Salad. *Fedia olitoria.*

Plate 1—*Fig.* 11.

This, the only common species, is very early in the time of its flowering, appearing on walls and banks, and still more often in corn fields in March and April. Lambs are very fond of it, hence it is sometimes called Lamb's Lettuce, and is also often grown in gardens as a salad. It is a small, branched, smooth, juicy plant, bearing numerous heads of minute, but beautiful bluish flowers. Leaves tongue-shaped, a little toothed. The round capsule is smooth, like the rest of the plant.

O. S. Narrow Fruited Corn Salad, and Sharp Fruited Corn Salad. The last is very rare.

CORN FLAG. *IRIS.*

WATER IRIS. *Iris Pseudacorus.*

Plate 1—*Fig.* 12.

The Iris, Flag, or Flower de Luce, the emblem of France, is named after the many-colored rainbow.

> "Every varying hue
> Of every beauteous thing on earth,—the tints
> Of Heaven's own Iris."

Some species are common in gardens. Our present plant is to be met with all over the South of England, in ditches and on river banks, the beauty of which situations is much increased in June and July by its numerous, large, bright yellow flowers. The leaves are sword-shaped—the root white and tuberous.

O. S. Stinking Iris, a curious name, when it is considered that it smells like roast beef, is common in the South of England.

CLASS 4.—TETRANDRIA.

(Containing Plants with Four Stamens, all of equal length.)

The fourth class is not a large one, but it contains some very pretty British plants, several of which are common. Besides those mentioned below are the numerous Pond Weeds, the elegant Lady's Mantle, the Madder Plant, and some others, which are small but elegant.

Order 1. *MONOGYNIA.* 1 *Style.*

* *Flowers above the fruit, on a leafy receptacle, seed one.*

TEASIL *(Dipsacus.)* Calyx entire; corolla regular.

SCABIOUS *(Scabiosa.)* Calyx bristly; corolla varied.

** *Flowers above the fruit, not on a leafy receptacle, seeds two.*

BEDSTRAW *(Galium.)* Cal. none; cor. of one petal; seeds dry.

DOGWOOD *(Cornus.)* Calyx of four teeth; corolla of four petals; seeds in a fleshy drupe.

*** *Flowers below the Fruit.*

PLANTAIN *(Plantago.)* Calyx four cleft; corolla bent back; capsule two or more seeded.

PELLITORY *(Parietaria.)* Calyx none; capsule one-seeded.

The second order, Digynia, contains no British plant.

Order 3. *TETRAGYNIA.* 4 *Styles.*

HOLLY *(Ilex.)* Corolla of one petal; fruit a berry.

PEARL-WORT *(Sagina.)* Cor. of four petals; fruit a capsule.

TEASEL. *DIPSACUS.*

WILD TEASEL. *Dipsacus sylvestris.*

Plate 1—*Fig.* 13.

Very common in the ditches of England, though not of Scotland, growing three, four, or even five feet high, and bearing, in the latter part of the summer, thick tapering heads of small pink flowers, that are succeeded each by a single seed, which is angular, furnished at the top with eight pores, and crowned by a rim that was the calyx. The leaves are well worth attention, as an example of one of the methods whereby plants are preserved against drought. They are wide, large, opposite, and every pair so joined together at the lower part as to form a large cup, in this not only the rain is collected, but the dews of night, by trickling down the leaves, give a fresh supply of water day by day, even in the hottest and driest weather. The whole plant is covered with hooks and prickles, so that it is seldom gathered, except the old receptacles after the seeds have fallen out. These are very stiff and hard, and are called by the country children of Essex and other places, Barber's Brushes, and they form, if not a good-shaped, at least a very penetrating hair brush. *pl. July*

D. Pilosus

O. S. There are two others—Small Teasel, which is now and then met with in damp hedges, and Fuller's Teasel, grown in Yorkshire and Wiltshire. used to put the nap upon fine woollen cloth, by being drawn over it quickly, when it drags the loose fibres of the cloth all in the same direction. *D. fullonum*

SCABIOUS. *SCABIOSA.*

FIELD SCABIOUS. *Scabiosa arvensis.*

Plate 1—*Fig.* 14.

Corolla four cleft. Lower leaves ovate, upper deeply cut.

This really beautiful plant is found in fields and hedge-rows, growing three or four feet high,—bearing its leaves and branches

all opposite; each branch ending in a close flat head of fine blue flowers, the inner of which are regular in form, the outer much larger, and their corolla very irregular and expanded. The leaves from the root are lanceolate and serrated, the leaves of the stem are deeply cut, and the whole plant hairy. *fl. in July*

DEVIL'S BIT. *Scabiosa succisa.*

Plate 1—*Fig.* 15.

Corolla four cleft. Lower leaves ovate, upper leaves oblong.

In the South of the Kingdom on heaths; in woods, &c. The heads of flowers are round, of a delicate blue color, all of the same size and shape. The stem is rather hairy, as are also the leaves, the lower generally stalked and ovate,—the upper oblong and a little toothed. The root is curious, appearing as if bitten off half way down, which caused the country people, who could not account for it, to call the plant, "The Devil's Bit." It was once used in medicine. *fl. June & July*

S. Columbaria

O. S. Small Scabious, common only in the chalk counties, the corollas of this are five-cleft, and the leaves deeply cut.

frequent in England—Rare in Scotland

BEDSTRAW. *GALIUM.*

YELLOW BEDSTRAW. *Galium verum.*

Plate 1—*Fig.* 16.

Flowers yellow. Leaves linear, about eight in a whirl.

Banks and thickets own the yellow Bedstraw, which, with its very abundant, clustered, and minute flowers, is a general favorite. Its linear drooping leaves, thin jointed stem, and round shining naked smooth seeds, agree in delicacy with the golden florets. The roots are used by the Highlanders of Scotland, instead of madder, to dye woollen cloth of a red color.

fl. June & July

WATER BEDSTRAW. *Galium palustre.*

Plate 1—*Fig.* 17.

Flowers white. Leaves oblong, blunt, four to six in a whirl.

This pretty plant grows on the borders of ditches and ponds. The stem is generally hairy, and the leaves blunt. The flower stalks are long, and the whole panicle of flowers very much spread out. The fruit is green when young and black afterwards.

fl. in June

HEATH BEDSTRAW. *Galium saxatile.*
Plate 1—*Fig.* 18.

Flowers white. Leaves ovate, pointed, six in a whirl, smooth.

In thickets and heathy places, sometimes so abundant as to make the whole thicket appear white with its numerous though minute flowers. It is rather difficult to tell this plant from the last. The leaves of our present species are smaller and more pointed, the panicle of flowers not so spread, and the fruit appears *red* when unripe. *Fl June & July. common*

GREAT HEDGE BEDSTRAW. *Galium Mollugo.*
Plate 1—*Fig.* 19.

Flowers white. Leaves eight in a whirl. Petals pointed.

Growing in a straggling manner over bushes. The flowers are collected in little tufts, near the top of the various branches. Leaves eight in a whirl, of a long oval shape, rough at the edges, and pointed. The petals also are pointed, by which this species is directly known from the two former; besides which the flowers are in closer bundles, and larger. The fruit is quite smooth, and the stems of the plant very long.

GOOSEGRASS BEDSTRAW. *Galium aparine.*
Plate 1—*Fig.* 20.

Flowers white. Leaves eight or ten in a whirl. Seed prickly.

The Goosegrass, Clivers, Cleavers or Catchweed, for it is known by all these names, struggles among the bushes of the hedge-rows. It is neither elegant nor useful; and yet shows one of those beautiful contrivances for the welfare of the plant, which in botany are so often presented to our notice, reminding us at every stem we take, that "He who made them is divine." The seeds are covered with curiously-formed hooks, by which they adhere to the skins of animals, or any thing else that touches them, and thus are carried along, and the plant distributed to a distance. Some of its names arise from this property, and because young geese are fond of it, it is often called Goosegrass. The stem is square, woolly at the joints, prickly, long, and trailing, with spear-shaped, rough leaves. The flowers very small and only one or two grow together.

Fl. from May to Augt

PLATE II

O. S. Cross-wort Bedstraw, a yellow flower with four leaves together; Marsh Bedstraw, a white flowered kind, which like the last, is often found; Upright Bedstraw—Grey Bedstraw—Bearded Bedstraw—Mountain Bedstraw—Wall Bedstraw—Warty Fruited Bedstraw—Rough Fruited, and Smooth Fruited Corn Bedstraw, all white and very rare; and Northern Bedstraw, also white,

CORNEL TREE. *CORNUS.*

Dogwood or Common Cornel Tree. *Cornus Sanguinea.*

Plate 2—*Fig.* 1.

This common shrub grows very slowly, seldom reaching ten feet in height, though it lives so long, and its wood is so tough and lasting that it is the emblem of duration. It blossoms in the spring, bearing bunches, (cymes,) of white, star-like flowers, at the end of the various branches. The leaves are opposite, ovate, green on both sides, until the autumn turns them to a full scarlet, like that of the ripening berries, and even the bark of the younger branches is red also. Its wood was once used for spear handles, now its chief use is for butcher's skewers.

O. S. Dwarf Cornel, a little plant found on Alpine pastures.

PLANTAIN. *PLANTAGO.*

Greater Plantain. *Plantago major.*

Plate 2—*Fig.* 2.

Leaves ovate, toothed, stalked. Flowers in spikes, six inches long.

On road sides and in pastures. Known at once by its very long and close spike of flowers, and its capsules being many seeded. The leaves are generally smooth, sometimes with long stalks, sometimes without—often toothed, at other times entire. They all rise from the root and have seven deep ribs upon them. The spikes are gathered in bundles, and hung up as winter food for the canary birds and goldfinches, which are very fond of the seeds.

Hoary Plantain. *Plantago minor.*

Plate 2—*Fig.* 3.

Leaves broad, ovate, entire, hairy. Spike round, two inches long.

This a great plague to the farmers, whole fields being sometimes covered with it, particularly in the South of England. The leaves are shorter, less stalked, more entire on the edge,

than in the last species, and downy. The spike of flowers, which has a silvery or hoary look, is also much shorter, and the capsule bears but two seeds, instead of many.

fl. June & July

— Ribwort Plantain. *Plantago lanceolata.*

Plate 2—*Fig.* 4.

Leaves lanceolate, pointed, entire. Spike half an inch long.

But too abundant in pastures. Known from the rest of the genus by the shape of the leaves, very short spikes, and bitten off, or abrupt root. The ribs or thick veins on the leaves, five in number, caused the name of ribwort to be given to it. The capsule is two-seeded, as in the last species.

fl. from May to August

— Buck's-horn Plantain. *Plantago coronopus.*

Plate 2—*Fig.* 5.

Leaves deeply cut and branched. Spikes short and hairy.

This plant, which loves dry, chalky, and gravelly places, varies very much in the size and shape of the leaves; but they are always deeply cut and mostly hairy. The spike of flowers is also hairy, and the capsule four-seeded.

fl. June & July

The only other species is Sea-side Plantain, which has strap-shaped leaves, and is not uncommon on the sea shore.

PELLITORY. *PARIETARIA.*

Pellitory-of-the-Wall. *Parietaria officinalis.*

Plate 2—*Fig.* 6.

This plant, of little beauty or apparent worth, is found as its name implies, on walls and old buildings. The leaves are ovate, pointed, and alternate, and from the base of each arises a little leafy branch, upon which at different short distances are bunches of small pink flowers, seven of them in a bunch. The stamens are elastic, very curious, and well worth attention, they are jointed, and until the pollen is ripe they bend back close to the petals, but as soon as the sun shines upon them hotly, the stamens fly upwards, and the pollen or fine yellow dust, that they have in their ends or anthers, is scattered all over the bunch of flowers it belongs to. This may easily be seen on a bright summer's afternoon by shaking the plant a little, or touching the stamens with a pin.

fl thro the summer
Walls & Old Buildings
& Castles

HOLLY. *ILEX.*

COMMON HOLLY. *Ilex aquifolium.*

Plate 2—*Fig.* 7.

How often do children turn with dislike from the holly because of its rough and thorny leaves, not knowing that it has virtues and beauties which ought to make them look at it always with pleasure. It affords a comfortable shelter to the poor innocent little birds when the forest is bare, and they have no other home; it feeds them with its bright scarlet berries when they have no other food. Its foliage shines in glossy greenness through the long and dreary winter, adding a charm to the frozen landscape, when all else is barren and leafless. With evergreen shrubs, among which the holly stands first, we decorate at some seasons of the year our houses and our churches, and if the leaves of our present plant are prickly, this alone should turn our negligence to attention, for it is only on the lower part of the holly trees that the leaves are prickly.

Fl. in May

"Below a circling fence, its leaves are seen
Wrinkled and keen;
No grazing cattle through their prickly round
Can reach to wound.
But, as they grow where nothing is to fear,
Smooth and unarm'd the pointless leaves appear.

"Thus should my youth, as youth is apt I know
Some harshness show;
All vain asperities, I day by day,
Would wear away—
Till the smooth temper of my age should be
Like the high leaves upon the holly tree."—SOUTHEY.

PEARL-WORT. *SAGINA.*

PROCUMBENT PEARL-WORT. *Sagina procumbens.*

Plate 2—*Fig.* 8.

The Pearl-worts are of little beauty or value. This species, which is perennial, grows on sandy heaths, garden walks, and such places. It is seldom more than two or three inches high, its stems resting on the ground, and often throwing out roots at the joints in the lower parts of them. It is much branched, and bears very minute white flowers of four petals each. The flower buds are drooping.

S. apetala

Fl. June & July

O.S. Annual Small-flowered Pearl-wort, almost as common as the above, and Sea Pearl-wort, an annual, very small, and the flowers without petals.

S. Maritima

CLASS 5.—PENTANDRIA.

(Containing Plants with Five Stamens.)

A very important class, containing many favorite flowers and fruits, as the elegantly-drooping Cyclamen, the well-known Jacob's Ladder, the Periwinkle, the Stramonium, the curious Yellow Balsam, and still more curious Dodder, the Elm, the Currant, and the Gooseberry, with many other plants, natives of England indeed, but rarely to be found, except in gardens. Some of the plants of Pentandria are wholesome, others the most deadly poison.

Order 1. *MONOGYNIA. Style* 1.

* *Seeds naked, four together; corolla beneath, of one petal.*

Viper's Bugloss (*Echium.*) Corolla irregular, widely open and without scales at the mouth.

Gromwell (*Lithospermum.*) Cor. funnel-shaped, deeply cleft, without scales at the mouth.

Comfrey (*Symphytum.*) Corolla swelled upwards, its mouth partly closed with awl-shaped teeth.

Bugloss (*Lycopsis.*) Corolla long, funnel-shaped, its tube curved, and mouth closed with scales; seeds smooth.

Hound's-Tongue (*Cynoglossum.*) Corolla short, funnel-shaped, its tube straight, mouth closed with teeth; seeds rough.

Scorpion-Grass (*Myosotis.*) Corolla flat with blunt lobes and mouth half closed with scales.

Note.—All the above plants have rough leaves; their calyces and corollæ five-cleft; and belong to the same natural order.

** *Seeds in a capsule or berry; corolla as before.*

Pimpernel (*Anagallis.*) Corolla wheel-shaped; stamen hairy; capsule bursting all round.

Loosestrife (*Lysimachia.*) Corolla wheel-shaped; stamens smooth; capsule of ten valves.

Centaury (*Erythræa.*) Corolla funnel-shaped with a short tube; capsule two-celled.

Primrose and Cowslip (*Primula.*) Corolla salver-shaped with a long tube; capsule opening with ten teeth.

Nightshade (*Solanum.*) Corolla wheel-shaped, regular; berry with two or more cells.

Bindweed (*Convolvulus.*) Corolla bell-shaped, folded; capsule two-celled.

*** *Seeds in a capsule or berry; corolla above the fruit.*

Bell Flower (*Campanula.*) Corolla of one petal, bell-shaped; capsule from two to five-celled.

Honeysuckle (*Lonicera.*) Corolla of one petal, irregular; berry from one to three-celled.

Violet and Heart's-ease (*Viola.*) Corolla under the fruit, irregular, of five petals; the under petal spurred.

Ivy (*Hedera.*) Corolla above the fruit, regular, of five petals, bent back; style simple.

Order 2. *DIGYNIA.* 2 *Styles.*

Goose-foot (*Chenopodium.*) Seed round, seated upon the calyx.

Beet (*Beta.*) Seed kidney-shaped, half buried in the calyx.

Note.—The other genera of this order are the umbellate plants, which are only to be known from each other by a very close examination of their fruit, and are much too difficult for the young botanist to distinguish, though many of them are extremely common in the garden and the field, as the Fennel, the Celery, the Parsnip, and the Carrot.

Order 3. *TRIGYNIA.* 3 *Styles.*

Guelder Rose (*Vibernum.*) Berry with one seed.

Elder (*Sambucus.*) Berry with three or four seeds.

Order 4. *TETRAGYNIA.* 4 *Styles.*

Contains only The Grass of Parnassus, which is rare except in mountainous countries.

Order 5. *PENTAGYNIA.* 5 *Styles.*

Thrift (*Statice.*) Calyx of dry scales; capsule one-seeded.

Flax (*Linum.*) Calyx of five leaves; capsule of ten cells.

Order 6. *HEXAGYNIA.* 6 *Styles.*

Sundew (*Drosera.*) Calyx five cleft; capsule one-celled.

VIPER'S BUGLOSS. *ECHIUM.*

Common Viper's Bugloss. *Echium vulgare.*

Plate 2—*Fig.* 9.

This plant, so common in all the chalky counties, on heaps of rubbish, and in waste grounds, is one of the most beautiful that our island produces. It rises with many stems all from the root, to two feet or more in height, and is covered with short curved spikes of large splendid flowers. These at first are of a fine red, but soon change to a deep blue, or purple: thus the whole plant puts on the greatest variety of color.

"The Bugloss buds of crimson hue,
To azure flowers expand,
Like changeful banner bright to view,
By wild winds fanned."

The root leaves are stalked, the stem leaves sessile, and the whole plant rough with prickles.

GROMWELL. *LITHOSPERMUM.*

Common Gromwell. *Lithospermum officinale.*

Plate 2—*Fig.* 10.

Rare in Scotland, though common in England on dry, waste ground, growing more than a foot high. Directly known by its small yellow flowers, and its very hard and very white smooth and shining seeds. The stem is branched. The leaves are lanceolate, rough above, and hairy on the under side.

O. S. Corn or White Gromwell—Creeping or Purple Gromwell—and Sea-side Gromwell, both the two last are very rare.

COMFREY. *SYMPHYTUM.*

Common Comfrey. *Symphytum officinale.*

Plate 2—*Fig.* 11.

Stem winged, leaves wrinkled, lanceolate, waved. Flowers in two-fingered bunches, yellowish white or else purplish in color, swelled out and divided into five sharp lobes, between every two of which is a stamen shorter than the lobes, and between these stamens appear five sharp-pointed teeth that partly close up the mouth of the flower. The root is long and thick. The stem is winged. The leaves rough, wrinkled, running down the stem, and waved at the edges, those only from the root have stalks. It grows two or three feet high, remains in flower all the summer, and is common in ditches.

O. S. Tuberous-rooted Comfrey, common in Scotland, but rare in England.

BUGLOSS. *LYCOPSIS.*

SMALL BUGLOSS. *Lycopsis arvensis.*
Plate 2—*Fig.* 12.

Common on hedge-banks and corn fields. The whole plant is upright, branched, very rough, and prickly all over, except the corolla and seeds. The flower is funnel-shaped, blue; the top cut into five round equal segments, the mouth of the tube closed with five rounded scales, and the tube itself bent (this latter part must be carefully looked to because it is the only part that differs from Alkanet in character.) The flowers are chiefly on the top of the branches and scattered in leafy spikes.

fl. June & July

HOUND'S-TONGUE. *CYNOGLOSSUM.*

COMMON HOUND'S-TONGUE. *Cynoglossum officinale.*
Plate 2—*Fig.* 13.

An upright plant, growing two feet high, on hedge-banks and in waste ground, with lanceolate hairy leaves, the lower ones only stalked. The flowers are of a reddish purple color, tubular but with a very short straight tube, the stamens are very short and covered over by the five roundish scales which close up the mouth of the corolla. The calyx is of one leaf, five-cleft, and incloses four very rough yellowish green seeds. The whole plant has a strong scent, like that of mice, by which it may be at once known. *fl. May & June*

O. S. Green-leaved Hound's-Tongue, found in the South of England.
C. Sylvaticum

SCORPION GRASS. *MYOSOTIS.*

WATER SCORPION GRASS. FORGET-ME-NOT. *M. palustris.*
Plate 2—*Fig.* 14.

Calyx when in fruit open. Limb of cor. flat, longer than tube.

This is the favorite and lovely flower which is so often painted and described.

> "This is affection's tribute, friendship's offering,
> Whose silent eloquence, more rich than words,
> Tells of the giver's faith, and truth in absence;
> And says 'Forget-me-not.'"

Almost every fair one's album has a drawing of it, and almost every poetical young lady has written a whole poem in its praise.

> "E'en sister flowers envy the favored lot,
> Of that blue-eyed darling, Forget-me-not,"

Everybody gathers it on the edges of the ponds and rivers, and everybody loves its brilliant blue flowers, which have white centres and yellow scales that partly shut up the mouth of the flower. Its bright green leaves are hairy in dry situations and nearly smooth when in the water. Its name too, and the curious anecdote which gave it this name, adds a double interest, and a double beauty to this little gem of the water. The story is this:—A young lady who was walking with her lover on the banks of the Danube, saw a bunch of this plant growing in the stream, and admiring its particular beauty she desired him to procure some for her, he reached the wished-for flowers from the bank, but in doing so lost his hold and fell into the water; he struggled long, but was unable to stem the rapid current, making however one last effort before he sank for ever, he threw the flower to his lady love, and exclaimed, "Forget-me-not;"—since this time the plant has been the emblem of memory, not only in Germany, but over almost all Europe.

Fl. June & July

"Sweet azure-flower, with golden eye,
That on the meadow banks doth lie;
Or, by the quiet streamlet fed,
On pillowing moss doth rest thy head:
Who by thy gems unmarked can pass?
Bright gleaming through the dewy grass."—S. WARING.

FIELD SCORPION GRASS. *Myosotis arvensis.*

Plate 2—*Fig.* 15.

Calyx when in fruit closed. Limb of cor. hollow, equal to tube

A hairy plant, common on cultivated ground, hedge banks, &c., growing four or five inches high, with very small, light blue, beautiful and delicate flowers, with yellow eyes; on footstalks longer than the calyx. The hairs of the calyx are spread out and hooked, the spike of flowers, as in all the species, is turned round at the top, growing upright and the flowers expanding by degrees. Fl. throughout summer

M. Alpestris
M. Collina
M. Versicolor
M. Caespitosa
M. Sylvatica

O. S. Rock Scorpion Grass, very beautiful but rare: found only on the highest of the Scotch mountains. Early Field Scorpion Grass, with very minute blue flowers. Different-colored Scorpion Grass, with flowers yellow at first and blue afterwards. Tufted Water Scorpion Grass, and Upright Wood Scorpion Grass, both of them blue and beautiful; the former not uncommon in wet places.

PIMPERNEL. *ANAGALLIS.*

SCARLET PIMPERNEL. *Anagallis arvensis.*

Plate 2—*Fig.* 16.

A little straggling plant, with bright scarlet flowers, of one five-cleft petal, the edges of which are set with glands or hairs. The yellow stamens are collected close round the style in the middle. When the flowers have passed away, the stalks which supported them twist round in a very remarkable manner, until the capsule (which is many-seeded) bends downwards, and its top falling off, it is thus curiously made to sow its own seed. But this is not the only thing worthy of admiration in our present little favorite—its delicate flowers *go to sleep* or close up soon after two o'clock in the afternoon, and open again at seven in the morning. They close up also some hours before rain, and so true and exact is the plant in this respect, that it is commonly called "The Poor-Man's Weather Glass." Thus by a simple weed we may tell the hour and foretel the weather, and many a time have I feared the coming storm, until seeing the gay flowers of the Pimpernel expanded I have been sure of warmth and sunshine.

> "Closed is the pink-ey'd Pimpernel,
> 'Twill surely rain, I see, with sorrow,
> Our jaunt must be put off to-morrow."—Dr. JENNER.

> "Of humble growth, though brighter dyes
> But not by rural swains less prized,
> The trailing stems allure
> Of Pimpernel, whose brilliant flower
> Closes against th' approaching shower,
> Warning the swain to sheltering bower,
> From humid air secure."—MORAL OF FLOWERS.

A very pretty poem too on this flower is in that delightful book, "The Romance of Nature." It ends thus:—

> "Now the wise little flower, wrapped safe from harm,
> Sat fearlessly waiting the coming storm.
> Just peeping between
> Her snug cloak of green,
> Lay folded up tight,
> Her red robe so bright,
> Though broidered with purple and starred with gold,
> No eye might its bravery then behold."—TWAMLEY.

The other only species is the Bog Pimpernel, a very delicate rose-colored flower, that grows on wet heaths, "where cultivation never smiled." There is a blue variety of Anagallis arvensis that was once thought to be a distinct kind.

LOOSESTRIFE. *LYSIMACHIA.*

Common Loosestrife. *Lysimachia vulgaris.*

Plate 2—*Fig.* 17.

Leaves lanceolate, nearly sessile. Flowers in terminal clusters.

A noble, showy, upright plant, that adorns the banks of rivers, growing three or four feet high, and bearing at the top of all the stems and branches, large panicles of fine yellow flowers. The leaves are smooth, lanceolate, two and sometimes three or four together.

Wood Loosestrife or Yellow Pimpernel. *L. nemorum.*

Plate 2—*Fig.* 18.

Leaves ovate, sharp. Stem creeping. Calyx segments narrow.

Common in woods, creeping on the damp ground, and flowering all the summer months. The corollas are large, yellow, on long stalks, rising from the axils of the leaves. The five divisions of the calyx are narrow and sharp pointed, and the capsules when ripe are twisted towards the earth as they are in the Scarlet Pimpernel—hence one of its names.

Creeping Loosestrife or Money-wort. *L. nummularia.*

Plate 2—*Fig.* 19.

Leaves roundish, blunt. Stem creeping. Calyx segments broad.

Frequent not only in damp woods, but on garden rock-work, where it grows very rapidly, and being in flower from June to September, it is a great ornament to such places. It differs from the last species in the divisions of the calyx, which are here much broader. The stem is also thicker—those bearing the solitary flowers do not twist round, as in the other, when the capsule is ripening; the leaves are rounder and blunter, so much so that the present plant is called Moneywort, and as these leaves are opposite, or two together, it has the name of Herb Two-pence, or Two-penny Grass.

O. S. Tufted Loosestrife, which is very rare in England.

CENTAURY. *ERYTHRÆA.*

Common Centaury. *Erythræa centaurium.*

Plate 2—*Fig.* 20.

Found in flower from July to September, on dry pastures.

PLATE III

chiefly where the soil is chalky, as in Essex, Kent, &c., growing about a foot high, quite upright, seldom branched, except in its flowers, which are borne in corymbs or loose heads. The corollas of a fine pink color (now and then white.) The limb or flat part is cut into five equal acute divisions, and the tube about twice as long as the calyx. The leaves are in pairs, rather distant from each other.

O S. Dwarf Branched Centaury—Dwarf Tufted Centaury, and Broad Leaved Tufted Centaury, all rare; and found on the sea-shore, chiefly in the northern counties.

PRIMROSE. COWSLIP. *PRIMULA.*

Common Primrose. *Primula vulgaris.*

Plate 3—*Fig.* 1.

Flowers flat, one on each stalk.

The "meek and soft-eyed Primrose." The "emblem of childhood." One of the "first and earliest flowers of the season." Who does not know and love the pale Primrose? Nature's modest child—which reminds us even in the midst of winter that balmy spring approaches. So common too and easily obtained!—We need only look at the first hedge-row or mossy wood, and we shall observe

> "A smiling knot
> Of early Primroses, upon the warm,
> Luxuriant, southern bank appears
> Amid the sunny luxury of grass."—Carrington.

> "Beneath the sylvan canopy—the ground
> Glitters with flowery dyes—the Primrose first
> In mossy dell, return of Spring to greet."—Gisborne.

Cowslip. Paigle. *Primula veris.*

Plate 3—*Fig.* 2.

Flowers concave, several on a stalk.

Beautiful thou art, lovely Cowslip, with thy rich yellow flowers, spotted with orange, enclosed in their green swelled calyces, and nodding to the earth, but doubly beautiful when collected in thousands on the hill-sides of sunny England, rendering sometimes the whole prospect yellow and gay. How pleasant in taste too are thy sweet corolla tubes? Even capable of making a fragrant and delicate wine. How often have we been a rival of the bee, and sucked them for their honey?

Not like thy fair sister, the Primrose, peering forth in early spring, but content to wait for the more genial months of May and June, and then hundreds of children gather and delight in thy charms. The poets too have not forgotten to sing thy praises and describe thy beauties. One says:

"Now in my walk with sweet surprise
I see the first Spring Cowslip rise,
The plant whose pensile flowers
Bend to the earth their beauteous eyes
In sunshine as in showers."—MONTGOMERY.

Milton makes it the emblem of pensiveness, and talks of

"Cowslips wan that hang the pensive head."

Blair tells us to "smile like a knot of Cowslips on the cliff," (though they do not often grow on cliffs.) Montgomery's lines on the daisy are equally applied to these little favorites:—

"Ye lovely flowers of lowly birth,
Embroiderers of the carpet earth,
That stud the velvet sod.
Open to Spring's refreshing air
In sweetest smiling bloom declare
Your Maker and your God!"

O. S. The Oxlip, which is between the Primrose and Cowslip. Mealy Primrose and Scottish Primrose, both with red flowers, and confined to the mountains of England and Scotland.

NIGHTSHADE. *SOLANUM.*

WOODY NIGHTSHADE, or BITTERSWEET. *Solanum dulcamara.*

Plate 3—*Fig.* 3.

Leaves cordate or hastate, entire. Fl. purple. Berries red.

This is rather rare in Scotland and I believe in Ireland, yet how often in England is it seen climbing among the bushes of our hedge-rows, and bearing in the summer drooping bunches of purple flowers, and in the autumn oval scarlet berries, beautiful to the eye, but very poisonous. The taste of the stem and root is at first bitter and afterwards sweet, whence its name of Bittersweet.

"Two lovely little children went, when Summer was in prime,
Into a garden beautiful, beneath a southern clime;
A brother and a sister—twins, and each to each most dear;
Nor was the mother of these babes beset with any fear.

"'Twas in that season of the year when on the blooming earth
Each flower and plant, and shrub and tree, to all their fruits gave birth:
And 'mid them all, and most exposed to catch the passing view,
With purple flowers and berries red, the climbing Nightshade grew.

"Up rose the little boy and ran, upon the bush to gaze,
And then his sister follow'd quick, and both were in a maze,
For berries half so beautiful they ne'er before had seen,
So forth he rashly stretch'd his hand among the branches green.

"These children then the berries pull'd, and of them eat their fill,
Nor did they ever dream the while, that they were doing ill:
'They are so pleasant and so sweet,' exultingly they cried,
And merry was their prattling laugh, to see their fingers dyed.

"But suddenly the sister stopp'd, her rosy cheek grew pale:
'Oh, brother! brother! hold me up, for something doth me ail,'
And soon he felt himself turn sick, and feeble, chilly, weak,—
And as he totter'd on the grass, he bruis'd his sister's cheek.

"Exhausted though that infant was; upon his tender breast
He plac'd the little Charlotte's head, that she might softer rest;
The hapless creature did but think his sister only slept,
And when his eyesight dimmer grew, to her he closer crept.

"The evening clos'd upon those babes, who slept away their breath,
And mourning o'er his cruel task, away went grieving, Death;
Alas! that such twin roses fair, which morning saw in bloom,
Should wither in the sunny land, ere came the twilight gloom."

COMMON OR GARDEN NIGHTSHADE. *Solanum nigrum.*

Plate 3—*Fig.* 4.

Leaves ovate, bluntly toothed. Flowers white. Berries black.

On rubbish, dunghills, &c. growing eight or ten inches high, upright and much branched, its berries are round, black, and even more poisonous than the last. In flower in July.

BINDWEED. *CONVOLVULUS.*

SMALL BINDWEED. *Convolvulus arvensis.*

Plate 3—*Fig.* 5.

Stem trailing. Bracts small, distant from the flower.

A pretty little plant, not strong enough to support itself, but creeping with a few stems for a foot or more along the ground or in the hedges, wherever the soil is light and sandy, and growing very deeply with long white roots. The stem is zigzag and twisted, bearing alternate, arrow-shaped, stalked leaves, in the axils of which grow the solitary flowers, borne on a stalk an inch or two long, having on it at about half an inch from the flower two very small bracts. The corolla before it opens is plaited up in a curious manner, and when unfolded is shaped like the mouth of a French horn, of a beautiful pink color, striped in a star-like manner with yellow. The flowers open only in the sunshine, closing up at night or before a shower. They are very often fragrant. *M. June & July*

GREAT BINDWEED. *Convolvulus sepium.*

Plate 3—*Fig.* 6.

Stems climbing. Bracts large, close to the flower.

Climbs boldly to the top of the hedges, putting out in the autumn very large, delicately white, solitary, trumpet-shaped flowers, each enclosed in a five-leaved calyx, and this almost concealed by two heart-shaped bracts, which distinguish it at once from the last; besides this it grows larger in every part.

"The Bindweed pure and pale,
That sues to all for aid,
And when rude storms assail
Her snowy virgin veil
Doth like some timid maid,
In conscious weakness most secure,
Unscathed its sternest shocks endure.

"How fair her pendant wreath,
O'er bush and brake is twining,
While meekly there beneath,
'Mid Fern and blossomed Heath,
Her lovelier sister's shining.
Tinged with such tender hues as streak,
A slumbering infant's glowing cheek."—A. STRICKLAND.

The only other species is the Sea-side Bindweed, a plant with large rose-colored flowers and kidney-shaped leaves.

BELL FLOWER. *CAMPANULA.*

BLUE BELL. HARE BELL. *Campanula rotundifolia.*

Plate 3—*Fig.* 7.

Root leaves round. Stem leaves linear. Fl. stalked, drooping.

Who does not love "The Pretty Blue Bell," with its little delicate pendant flowers, its graceful stems, its narrow leaves. We may not perhaps have observed that those leaves which grow near to the root are round, because they soon dry up, but we all know how celebrated is "The Blue Bell of Scotland"—it is our present plant, and grows on all heaths and thickets.

"The Hare-bell, bright and blue,
That decks the dingle wild,
In whose cerulean hue,
Heaven's own blest tint we view
On day serene and mild.
How beauteous, like an azure gem
She droopeth from her graceful stem."—A. STRICKLAND

"Are we not beautiful? Are not we
The darlings of mountain, and woodland and lea?
Plunge in the forest—are we not fair?
Go to the high road—we'll meet you there.
Oh! where is the flower that content may tell,
Like the laughing, the nodding, and dancing Hare-bell."
ROMANCE OF NATURE.

CLUSTERED BELL FLOWER. *Campanula glomerata.*

Plate 3—*Fig.* 8.

Leaves rough, lanceolate, crenate. Fl. sessile, in a cluster.

Found in corn fields and meadows, though not so common as the last. The flowers, which are of a fine dark blue, are borne upright in a thick cluster, on the top of a simple stem, with sometimes three or four flowers in the axils of the leaves down the stem. The leaves are hairy, crenate, rather lanceolate, the upper ones sessile, the lower stalked. It grows from a few inches to a foot in height, and flowers in June.

O. S. Spreading Bell Flower—Rampion Bell Flower—Peach-leaved Bell Flower—Giant Bell Flower, and Creeping Bell Flower all very rare: Nettle-leaved Bell Flower, common in gardens—Ivy-leaved Bell Flower, one of the most graceful little plants, which from its delicacy and place of growth is often called "The Fairy of the Fountain;" Corn Bell Flower which seems like a small flowered variety of the 'Venus' Looking Glass, a common border annual.

HONEYSUCKLE. *LONICERA.*

COMMON HONEYSUCKLE or WOODBINE. *L. Periclymenum.*

Plate 3—*Fig.* 9.

Surely I need not describe this well-known, sweet-flowered shrub; which is the emblem of sweetness of disposition from its honied and delicious scent; and of generous affection from its firmly-clasping shoots; these once fixed, be it only to a ruined column, or a riven oak, still keep a firm hold; and if they cannot support the shattered trunk, they at least ornament it with their beauties and their fragrance. It is too the poor man's shrub, and smiles on many a humble cottage.

"By rustic seat and garden bower,
There's not a leaf, or shrub, or flower,
Blossom or bush, so sweet as thee,
Lowly but fragrant Honey-tree.
By stately halls we see thee not,
But find thee near the lowly cot,
Or latticed porch—by humble door
Thou leanest with thy honied store,
Dropping from thy bee-bosomed flowers
Sweetness through evening's dewy hours.
Tree of the cottage and the poor!
Can palace of the rich have more?
No! Sweet content as seldom dwells,
In palaces as lowly cells."

VIOLET. *VIOLA.*

SWEET VIOLET. *Viola odorata.*

Plate 3—*Fig.* 10.

Leaves heart-shaped. Fl. stems from the root. Calyx blunt.

The Sweet Violet is known from the others by being nearly smooth in every part, there being no stem except that which supports the flower, from the two side petals of the flowers having a row of hairs upon each, and from the bracts on the flower stalks being more than half way up. The plant creeps along the ground by runners. Its time of flowering is the earliest of the spring—its place of growth the quiet recesses of the woods and hedge-rows—its stature lowly and humble—its color a fine purple, and added to all these unpretending charms its perfume is the sweetest of the sweet. Thus all prize it as the emblem of modesty, and when of a white color, as it sometimes is, as the emblem of candour and innocence—all love it for its sweetness, and all admire it for its beauty.

March April

"Sweet flower! spring's earliest, loveliest gem,
While other flowers are idly sleeping,
Thou rearest thy purple diadem,
Meekly from thy seclusion peeping.

"Thou, from thy little sacred mound
Where diamond dew-drops shine above thee,
Scatterest thy modest fragrance round,
And well may nature's poet love thee.

"Thine is a short swift reign I know,
But here thy spirit still pervading,
New Violet's tuft again shall blow,
Then fade away as thou art fading.

"And be renewed the hope now blest,
Oh! may that hope desert me never.
Like thee to sleep on Nature's breast,
Then wake again and bloom for ever."—BOWRING.

DOG'S VIOLET. *Viola canina.*

Plate 3—*Fig.* 11.

Leaves heart shaped. Fl. stems not from the root. Calyx sharp.

Common in woods and on banks. A good deal like the last, but the flowers are without scent, and do not grow direct from the root, but the plant is furnished with a leafy stem, at the joints of which the flower stalks arise, each bearing a single purple or white flower, enclosed in a calyx, the parts of which are sharp pointed. Fl. thro the summer

HEART'S-EASE or PANSY. *Viola tricolor.*

Plate 3—*Fig.* 12.

Leaves oblong. Stem branched, square. Stipules very large.

The flowers of the Heart's-ease are annual, small, sometimes wholly yellow, but more frequently the upper petals are purple, and the lower striped with a color still darker. The seed vessel is full of seeds, and of a curious form, like a star of three rays. The leaves, which are oblong and deeply crenate, are attended at their base by two large lyrate stipules, and the flowers by two very minute bracts. The plant goes by various names, some of them are somewhat singular—"Love and Idle," and "A Kiss behind the Garden Gate," are two of them. That species which has given rise to all the beautiful and splendid varieties of the garden is the *Viola lutea*, a larger flowered kind. The Heart's-ease is a general favorite with the poets of all nations, and signifies "Think of me." This is the French "Forget-me-not," and was worn by Buonaparte and those who secretly favored him, when he returned from the island of Elba in the spring of the year 1815.

"In youth I planted a sweet flower,
Beside my own dear infant bower.
Its first sweet buddings all were noted,
For on my little gem I doated.
'Twas not a gay or gaudy blossom,
Which gladdened thus my infant bosom,
No flaunting flower, the proud to please,
'Twas but the pretty flower, Heart's-ease.
I loved it on through youth to age,
It did my every thought engage.
Each day to tend my charge I flew,
And with attention it so grew,
So well repaid my anxious care,
I had enough, and had to spare.
Sweet reader, may I ask if you,
Would have a stock of Heart's-ease too,
List to the moral of the sage,
Plant it in youth, 'twill last to age."

O. S. Hairy Violet, a plant of the woods—Marsh Violet, found in the bogs—Cream colored Violet and Yellow Mountain Violet, both fond of the pure air of the hills.

IVY. *HEDERA.*

COMMON IVY. *Hedera Helix.*

Plate 3—*Fig.* 13.

The flowers of the Ivy are green, the petals bent back, and appearing at the end of the branches in the autumn. The

berries which succeed ripen in the following spring, and are then black. The leaves on the top of the plant are ovate and entire—on the lower part of it, and particularly on the creeping stems, they are five-lobed, very dark green, beautifully veined with white. Among the ancients the Ivy was a celebrated plant, as it formed the crown of victory with which the Greek and Roman poets were crowned. From the circumstance of its being often seen around a decayed tree, it was thought that it had killed it, and thus became the emblem of ingratitude, as having strangled its benefactor; but this is not true, for although it has roots which cling to the bark, yet it has other roots in the earth which nourish it. The author of the "Studies of Nature" regards it as the emblem of pure friendship. "Nothing," says he, "can separate it from the tree which it has once embraced—it clothes it with its own leaves in that inclement season when its dark boughs are covered with hoar frost. The faithful companion of its destiny it falls when the tree is cut down, but death itself does not relax its grasp, and it continues to adorn with its verdure the dry trunk which once supported it." fl in Oct

"Thus the two friends so closely twine,
The tree supports, the flower adorns,
The oak need not for youth repine,
Nor the frail ivy fear the storm.

"Thus may old friendship ever be
Founded on qualities which last,
That it may live on sympathy,
When beauty and when youth are past."

GOOSE-FOOT. *CHENOPODIUM.*

ANNUAL SEA-SIDE GOOSE-FOOT. *Chenopodium maritimum.*
Plate 3—*Fig.* 14.

Leaves awl-shaped, fleshy. Flowers with two bracts.

Common on the sea shore, but of no beauty and little value, growing upright, three to six inches high, and bearing very minute yellow flowers, each of which has under it two very small bracts. The plant is much branched, and to be found in flower in July and August.

GOOD KING HENRY. *Chenopodium Bonus Henricus.*
Plate 3—*Fig.* 15.

Leaves triangular, entire. Fl. in compound leafless spikes.

On way-sides and waste places, flowering in June. Known at once by the shape of the leaves, and by the plant being quite upright, with many stems. The spikes of flowers are at the sides, as well as the top of the stem, and without leaves mixing with the flowers, though the side spikes arise where the leaf does. The country people often boil this plant, when it tastes much like spinach. It is called by them Good Fat Hen.

UPRIGHT GOOSE-FOOT. *Chenopodium urbicum.*
Plate 3—*Fig.* 16.

Leaves triangular, toothed. Fl. in tufts, on long leafless spikes.

On dunghills, waste ground, &c., everywhere near towns. It differs from the last in having its leaves deeply notched, and its flowers not being collected together in such close bunches. It flowers too at a much later season, Aug^t & Sept^r

RED GOOSE-FOOT. *Chenopodium rubrum.*
Plate 3—*Fig.* 17.

Leaves triangular. Flowers in thick tufts, on leafy spikes.

Common on waste ground, flowering in the autumn. It differs from the last in the spike of flowers being very thick, compound, and leafy. The leaves too of the plant taper very much towards the stalk, and the upper part only is deeply notched. This is a very thick, upright, fleshy plant, possessing no beauty, and more or less of a red color.

WHITE GOOSE-FOOT. *Chenopodium album.*
Plate 3—*Fig.* 18.

Leaves ovate, mealy. Flowers in thick tufts, on leafy spikes.

The white mealy appearance of this plant, and its greasy feel, directly point it out; besides which its leaves are more oval than in the last, the lower ones are notched in the same manner, the upper ones oblong and quite without notches. Flowers in summer and autumn. July & Aug^t

O. S. Shrubby Sea-side Goose-Foot—Fetid Goose-Foot—Many-Seeded Goose-Foot — Many-Spiked Goose-Foot — Nettle-Leaved Goose-Foot—Maple-Leaved Goose-Foot — Fig-Leaved Goose-Foot, and Oak-Leaved Goose-Foot. Some of them are not uncommon about London.

BEET. *BETA.*

Sea Beet. *Beta maritima.*

Plate 3—*Fig.* 19.

Stem prostrate. Flowers in pairs. Leaves ovate, entire.

A native of the sea shore of England and South of Scotland. The root is thick, tapering, white when cut across. Stem two feet high, branched. Flowers single or two together, in leafy compound spikes. *fl in Aug*

GUELDER ROSE. *VIBURNUM.*

Mealy Guelder Rose. *Viburnum Lantana.*

Plate 3—*Fig.* 20.

Leaves cordate and very downy. Berries black.

A thick branching shrub, common in woods and hedges in the South of England, growing to the height of from four to eight feet, and bearing in June flat bunches of white flowers at the end of the young stems, succeeded afterwards by red, rather square, fleshy seeds. The calyx is very minute, and the corolla regular. Leaves opposite, much wrinkled, veined, of a roundish heart-shaped form, serrated at the edges, and very downy on the under side. The young shoots are also downy.

Common Guelder Rose. Way-faring Tree. *V. Opulus.*

Plate 4—*Fig* 1.

Leaves lobed and very smooth. Berries red.

June Grows in the same places as the last, but flowers rather earlier. It is known at once from the former by being smooth all over, having its leaves lobed, and the stalks of them furnished with two or more glands, its berries too are oval, and those of its florets, which are near the outer part of the bunch, irregular, without stamens and larger than the others. When in gardens the whole of its flowers become thus *monstrous*; also, the bunches of them become round balls, and being beautifully white, resemble snow-balls.

> "Way-faring Tree! what ancient claim,
> Hast thou to that right pleasant name?
> Was it that some faint pilgrim came,
> Unhopedly to thee
> In the brown desert's weary way.
> 'Mid toil and thirst's-consuming sway,
> And there as 'neath thy shade he lay,
> Blessed the Way-faring Tree!"—W. Howitt.

PLATE IV

ELDER. *SAMBUCUS.*

COMMON ELDER. *Sambucus niger.*

Plate 4—*Fig.* 2.

The Elder may well be called common, it grows in hedge-rows and cottage gardens—on cliffs, rocks, and ruins—in dry spots and near the water—and wherever it may be it yields an abundant crop of white fragrant flowers and round purple berries, sickly indeed in taste and hurtful when eaten, but their fermented juice furnishes a pleasant and wholesome wine. The flowers are used to make an ointment, and when boiled with water give to it a sweet pleasant scent, called then Elder-flower water. The stems are full of pith, and the wood very hard and white.

O. S. Dwarf Elder, or as it is sometimes called Dane-wort, is a poisonous shrub, which bears pink flowers of a very disagreeable scent.

THRIFT AND SEA LAVENDER. *STATICE.*

COMMON THRIFT. *Statice Armeria.*

Plate 4—*Fig.* 3.

Flowers in a single round, terminal head. Leaves linear.

The Common Thrift, often used as an edging for flower beds and borders, is found scattered over many parts of England, sometimes on the muddy sea shore, at other times on the tops of mountains. The leaves are linear and all come from the root, which is tufted and fibrous. The flowers are pink, collected in a round head, (called by children, "Pin-cushions,") and partly enclosed in a scaly calyx, that ends below in a brown dry sheath, running some way down the flower stalk.

SEA LAVENDER. *Statice Limonium.*

Plate 4—*Fig.* 4.

Flowers in a branched, spreading head. Leaves elliptic.

A handsome plant, common on the muddy sea shores of England, but not of Scotland, flowering in July, and growing eight or ten inches high. It is known at once from the former by its very different appearance, its leaves, and the color of the flowers, which here are of a fine blue. The flowers and flower stalks retain almost all their color and beauty when dried, and are often gathered for winter nosegays, and used

by bird stuffers to ornament the cases of animals which they preserve. Though this plant has the name of Sea Lavender yet it has no scent whatever.

O. S. Upright Spiked Thrift and Matted Thrift, both similar to the last, but smaller and more rarely found.

FLAX. *LINUM.*

Common Flax. *Linum usitatissimum.*

Plate 4—*Fig.* 5.

Leaves alternate, lanceolate. Flowers large and blue.

Of all plants this is one of the most useful, as well as one of the most beautiful. It grows in almost every country in the world, and was known even at the most distant times. In many parts of our own island it is grown in extensive fields, where its blue and numerous flowers render it a fine object to the view; it is also sometimes found in corn fields, brought there perhaps in the corn seed. It is highly valuable for its oily seeds, which, when crushed yield linseed oil, when ground are used in fomentations, and when boiled produce a thick jelly-like liquid, well known as linseed tea. But even more valuable are its stringy fibrous stalks, these when prepared, are the material from which are made linen, cambric, lawn, lace, thread, &c. They are prepared in the following manner:—When the plants are of their full height, and just done flowering, which is about the beginning of August, they are pulled up, sorted, and the seeds and leaves stripped off, by being drawn through a *heckle*, which is a machine like a comb. They are then soaked in water for some days, to destroy the green pulp and the outer bark, this is called *water retting* or *water rotting*. Afterwards they are beaten or else crushed between rollers, in order to separate the various fibres from each other. They next are dried and drawn through a machine like a large clothes brush, made of wire—this process draws all the fibres the same way, and makes them straight and even. After this is done nothing remains but to bleach them, and they are fit for the spinner. The flax that is used for the more delicate articles, such as fine lawn, is prepared with much greater care and trouble.

Mrs. Howitt, in a beautiful little book called Birds and Flowers, speaks thus truly of the Flax:—

"Oh, the little Flax-flower,
It groweth on the hill,
And be the breeze awake or asleep,
It never standeth still.

"It groweth and it groweth fast,
One day it is a seed,
And then a little grassy blade,
Scarce bigger than a weed.

"But then comes out the Flax-flower,
As blue as is the sky,
And 'tis a dainty little thing
We say as we pass by.

"Oh, 'tis a goodly little thing,
It groweth for the poor,
And many a peasant blesses it,
Beside his cottage door."

WHITE FLAX. *Linum catharticum.*

Plate 4—Fig. 6.

Leaves opposite, oblong. Flowers white.

A little delicate plant that is abundant on most dry hill-sides, bearing small white flowers, which, when young, are elegantly drooping; one stem only comes from the ground, but at a little more than half way up it divides into two branches, and each of these a little higher into two others, and so on. It is violently poisonous—blossoms in July, and grows from four to six inches high.

SUN-DEW. *DROSERA.*

ROUND-LEAVED SUN-DEW. *Drosera rotundifolia.*

Plate 4—Fig. 7.

This little darling must be sought for in bogs and wet mossy places, and will well repay the search, as it is most elegant in appearance, and curious in structure. Its height is not more than three or four inches, and it has no stem except that which supports the flowers. The leaves all rise direct from the root, are stalked, round, and spread close on the ground; when young they are rolled up and pinkish, when open, green and covered with red hairs, at the end of every one of which is a small drop of a red sticky juice, that seems like a drop of dew, and as this is not dried up by the sun's heat, the plant is called Sun-dew. It is also often named "The English Fly Trap."

for when the poor little flies settle upon the leaves they are caught by the sticky juice, and in this state may be often found either already dead, or struggling to get free. The flowers are white, of five petals, several on a stalk, and seldom seen open, except for a very little time in the middle of the day. This elegant and curious plant, growing in the swamps and fens, where it is unseen till sought for, and where it raises its modest milk-white flowers to the sun, drinking the dew, and catching the insects as if for food, would remind us of contented industry, striving with poverty, yet cheered by hope.

"By the lone fountain's sacred bed,
Where human footsteps rarely tread,
Mid the wild moor, or silent glen,
The Sun-dew blooms, unseen by men,
Spreads there her leaf of rosy hue,
A chalice for the morning dew.

"Wouldst thou that to thy lot were given,
Thus to receive the dews of Heaven,
With heart prepared, like this meek flower,
Come then, and hail the dawning hour,
And, bending, seek in earnest prayer,
The gift of heavenly grace to share."—S. WARING,

O. S. Long-Leaved Sun-dew and Great Sun-dew, both with longer leaves, but growing in similar places and equally curious.

CLASS 6.—HEXANDRIA.

(Containing Plants with Six Stamens, of equal length.)

This class is noted for the very great proportion of beautiful plants which it contains. Almost all the bulbous-rooted flowers are found here. Among others—"that first fair offspring of the budding year," the Snowdrop. Besides which we have the elegant Narcissus, the lovely Lily of the Valley, the Star of Bethlem, the delicate Scilla, the gaudy Tulip, the checquered Fritillary, the sweet Acorus, the juicy Asparagus, and the well-known Rushes, a numerous tribe, but too difficult to be noticed here, and too uninteresting to excite the attention of the "Little Botanist."

Order 1. *MONOGYNIA.* 1 *Style.*

Solomon's Seal *(Convallaria.)* Cor. tubular, points straight.

Hyacinth (*Hyacinthus.*) Cor. bell-shaped, points turned back.

Order 2. *DIGYNIA.* 2 *Styles.*

Contains but one British plant, which is abundant only in lofty situations, it is called Mountain Sorrel (Oxyria reniformis.)

Order 3. *TRIGYNIA.* 3 *Styles.*

Dock *(Rumex.)* Calyx of three united leaves; petals three.

Order 4. *HEXAGYNIA.* 6 *Styles.*

One plant only belongs here, and that is not very uncommon in ponds and other wet places, it is called Star-fruit (Actinocarpus Damasonium.)

Note.—It will be observed that this is the fourth order, and yet the plants belonging to it have six styles, as is expressed by the Latin name of the order (Hexagynia.) An instance, among others, of the necessity of using the Latin rather than the English names.

Order 5. *POLYANDRIA. Many Styles.*

Water Plantain *(Alisma.)* Calyx of three distinct leaves; petals three.

SOLOMON'S SEAL. *CONVALLARIA.*

Common Solomon's Seal. *Convallaria multiflora.*

Plate 4—*Fig.* 8.

In woods in many parts of the kingdom, flowering in May and June. Stem single, from one to two feet high, bending downwards a little at the top, and bare of leaves on the lower part. The leaves are ovate, alternate, all growing upwards. Flowers in the axils of the leaves, like a little round tube or long straight bell, of a yellowish white color, green at the tips, three or four together, and drooping. Root tuberous, berries round, purplish-black.

O. S. Narrow-Leaved Solomon's Seal—Angular Solomon's Seal, and the Lily of the Valley, that emblem of innocence and purity.

"Sweet Flower of the Valley, wi' blossoms of snow,
And green leaves that turn the cauld blast frae their stems.
Bright emblem of innocence, thy beauties I lo'e,
Above the king's coronet circled with gems,

"There's no tinsel about thee, to make thee mair bright.
Sweet Lily! thy loveliness a' is thy ain,
And thy bonny bells, dangling sae pure and sae light,
Proclaims thee the fairest of Flora's bright train."

HYACINTH. *HYACINTHUS.*

HYACINTH OF BLUE BELL. *Hyacinthus non-scriptus.*

Plate 4—*Fig.* 9.

The Blue Bell is abundant not only all over our commons, thickets, and woods, but also throughout Europe. Its root is a white bulb—leaves strap-shaped—flowers bell-shaped, drooping downwards, five cleft, with the points turned back, mostly blue, but now and then white or pink.

> "A Hyacinth lifted its purple bell,
> From the slender leaves around it.
> It curved its cup in a flowing swell,
> And a starry circle crowned it.
> The deep blue cincture that robed it, seemed
> The gloomiest garb of sorrow,
> As if on its eye no brightness beamed,
> And it never in clearer moments dreamed
> Of a fair and calm to-morrow."—PERCIVAL.

Poets seem fond of singing the praises of the fragrant and beautifully-colored species, cultivated in gardens and in parlors. Our plant though with little scent is yet a favorite, and in the spring gathered in handsful by country children as a nosegay, and called by them "Blue Bottles," because the young seed vessel is shaped like a decanter or wine bottle.

fl. in May

DOCK. *RUMEX.*

CURLED DOCK. *Rumex crispus.*

Plate 4—*Fig.* 10.

Leaves waved, sharp. Upper whirls of flowers leafless.

In fields and on way-sides, growing two or three feet high, flowering in June and July. The whirls of flowers are very numerous, the petals large, heart-shaped, a little waved at the edges, but not toothed, and one of them (sometimes all three) with a large orange-colored swelling upon it. Leaves oblong, much crisped, and curled on the edges.

GREAT WATER DOCK. *Rumex Hydrolapathum.*

Plate 4—*Fig.* 11.

Leaves lanceolate, entire. Upper whirls leafless.

A very large plant, common on river banks, bearing fine lanceolate sharp-pointed leaves, often two feet long. The

whirls of flowers are crowded and not mixed with leaves. Petals green, not toothed, of a long egg-shape, and each with a swelling on it. This is a very different plant from that commonly called Water Dock, which is the *Burdock*, a plant of the nineteenth class. *fl. July & Aug^t*

FIDDLE DOCK. *Rumex pulcher.*
Plate 4—*Fig.* 12.

Leaves fiddle-shaped. Whirls distant, leafy.

Common on pastures, and by the highways, growing two or three feet high. Its name of the Fiddle Dock arises from the curious form of the leaves, which are contracted on both sides, somewhat like a fiddle. Its Latin name, which means the Beautiful Dock, it well deserves, on account of the elegance of the petals of the flowers. They are egg-shaped, and very deeply toothed, of a beautiful vivid green color, with a large spot of fine scarlet in the centre of each. The stamens are large and yellow, adding a third brilliant color to the flowers. The stem is channelled, light green, striped with red. Each whirl of flowers attended by a single leaf. *fl. Aug^t*

BROAD-LEAVED DOCK. *Rumex obtusifolius.*
Plate 4—*Fig.* 13.

Leaves ovate, blunt. Upper whirls without leaves.

One of the very commonest species. Known at once by its broad blunt-pointed leaves. The petals are yellow, with a spot of red upon each, and teeth on each edge. The leaves get smaller and sharper pointed towards the upper part of the plants, as in all the other species, and the three or four upper whirls of the flowers are without leaves. *July & Aug^t*

COMMON SORREL. *Rumex acetosa.*
Plate 4—*Fig.* 14.

Leaves oblong, arrow-shaped. Whirls of flowers leafless.

This is the pleasant-tasted sour plant, the leaves of which children gather in the meadows and bring home by handsful to eat—but few of them ever remark the curious drooping red flowers,

borne, as in the rest of the tribe, in little bunches round the stem. The flowers of some plants contain only stamens, others the styles or pointals. The petals are of a fine red, and very often the stalks and leaves are reddish also. The leaves have at the lower ends of them two little tapering parts, shaped like horns, and wherever a leaf or branch comes out is a sheath to the stem. The calyx is turned back when the seed is ripening. *fl. in summer*

SHEEP'S SORREL. *Rumex acetocella.*
Plate 4—*Fig.* 15.

Leaves dart-shaped. Whirls of flowers leafless.

The Latin name, acetocella, means Little Sorrel. Though this plant is very similar to the last, it is very much smaller in all its parts, being seldom more than four or six inches high. It grows too not in meadows, but on hills, in gravelly woods, and on road-sides, is not so sour in taste, the leaves vary much in shape, and the whole plant in color, as it is sometimes quite green, and at others red. The calyx is not turned back so much as in the last, and the petals are ovate in form, and not heart-shaped as in the Common Sorrel.

O. S. Meadow Dock—Small Water Dock—Alpine Dock—Red Veined Dock.—Sharp Leaved Dock—Golden Dock, and Yellow Marsh Dock.

WATER PLANTAIN. *ALISMA.*

COMMON WATER PLANTAIN. *Alisma Plantago.*
Plate 4—*Fig.* 16.

A delicate upright water plant which bears all its leaves upon long stalks, and rising from the root. Seldom more than one flowering stem to a plant, and this throws off on the upper part whirls of three or four branches, each furnished with a scale, where it joins the main stem, and ending in a little whirl of three or four stalked flowers, formed of three curiously-wrinkled pink petals. Calyx of three leaves. Seeds several, joined together in a ring. *fl. July*

O, S. Floating Water Plantain, and Less Water Plantain.

CLASS 7.—HEPTANDRIA.

(Containing Plants with Seven Stamens.)

But one native of Britain belongs to this class, called the Winter Green, a very rare plant in England, and one by no means constant in having seven stamens—in truth the number seven is very unusual in the parts of plants. The Horse-Chesnut belongs to this class, and so does the snow-white Calla, and the lurid mottled Dragons, but besides these there are scarcely any foreign plants of interest.

CLASS 8.—OCTANDRIA.

(Containing Plants with Eight Stamens.)

Not an extensive but an elegant class, holding the beautiful and ever-varied Heaths, of which our island boasts several sorts, the Bilberry or Whortle Berry, and the Cranberry come next, the Sycamore and the Maple join them, the Evening Primrose, with its abundant yellow flowers,

> "In its graceful mild retreat,
> Growing every hour more sweet."

The bright-flowered Yellow-wort, the Mezereon too, that bears its blossoms even in the midst of snows, and the curious four-leaved and green-flowered Herb-Paris.

Order 1. *MONOGYNIA.* 1 *Style.*

HEATH *(Erica.)* Calyx of green leaves, without bracts.

LING *(Calluna.)* Calyx of colored leaves, with green bracts.

WILLOW HERB *(Epilobium.)* Calyx falling off; petals four; seeds crowned with hairs.

Order 2. *DI-TRIGYNIA.* 2 *or* 3 *Styles.*

KNOT-GRASS *(Polygonum.)* Calyx none; corolla five-cleft; seeds single.

Order 3. *TETRAGYNIA.* 4 *Styles.*

The plants of this order are Herb-Paris and the Adoxa, both not uncommon in woody places; and two species of Water-wort, which are very rare, and exceedingly minute plants.

HEATH. *ERICA.*

Cross-Leaved Heath. *Erica Tetralix.*

Plate 4—*Fig.* 17.

Leaves four in a whirl. Flowers in round heads.

This is the most delicate of the English Heaths, but not the most abundant, though it is yet pretty frequent on moors and commons, along with the other kinds. Its roots are long, its stems tough, its leaves dark colored, with hairs around their edges, and growing four together. The anthers of the stamens have two curious awns (horns) at the lower part of them. The flowers are oval, ending in a little cross, in the centre of which the style is seen, they elegantly droop, and are collected in little heads at the end of the branches. Their color is most delicate. Fl. July & Augt

> "Sometimes with bells like amethyst, and then
> Paler, and shaded like a maiden's cheek
> With gradual blushes; other while as white
> As rime that hangs upon the frozen spray."—Mrs. C. Smith.

Fine-Leaved Heath. *Erica cinerea.*

Plate 4—*Fig.* 18.

Leaves three in a whirl. Flowers in long heads.

This is very common, very beautiful, and very lasting. It agrees with the last in general appearance when not in flower, but its leaves will even then show a difference. In the present species they grow three together, but as the young branches grow among them it often appears as if there were many leaves together. The flowers are bell-shaped, drooping, in scattered heads, mostly pink colored, smaller than those of the last, more open at the end, and with a longer style.

Fl. July & Augt

> Sweet flowret! from nature's indulgence thou'rt cast,
> Thy home's on the cold heath, thy nurse is the blast.
> No shrub spreads its branches to shelter thy form,
> Thou'rt shook by the winds, and thou'rt beat by the storm.
> But the bird of the moor on thy substance is fed,
> And thou givest to the hare of the mountain a bed."—J. Jones.

All the common heaths are evergreen, and in flower from July to September or October. The wild-fowl come to this for shelter and food, and the bees for the honey of its flowers.

O. S. Mr. Mackay's Heath—Mediterranean Heath, and Flesh-colored Heath, all found in Ireland only; Cornish Heath, and Ciliated Heath, both rare, and confined to the extreme South of the Kingdom.

LING. *CALLUNA.*

COMMON LING or HEATHER. *Calluna vulgaris.*

Plate 4—*Fig.* 19.

So common on waste commons and open tracts of ground, that such places are called heaths, and Heath is the most common name of our present plant. Its leaves are a little hairy, grow in four rows lapping over each other, and close pressed to the stem. The flowers are a reddish purple, very numerous, small, growing all along the young shoots. We use the stems for brooms and for fuel. The Highlanders for many other purposes—it clothes their wild hills, and its flowers empurple their barren mountains. *Fl. in Aug.*

" Flower of the waste, the heath fowl shuns
For thee the brake and tangled wood,
To thy protecting shade she runs
Thy tender buds supply her food.
Her young forsake her downy plumes,
To rest upon thy opening blooms,

" Flower of the desert though thou art,
The deer that range the mountain free,
The graceful doe, the stately hart,
These food and shelter seek from thee;
The bee thy earliest blossom greets,
And draws from thee her choicest sweets,

" Gem of the heath, whose modest bloom,
Sheds beauty o'er the lonely moor:
Tho' thou dispense no rich perfume,
Nor yet with splendid tints allure:
Both valor's crest and beauty's bower
Oft hast thou decked, a favorite flower.

" Flower of the wild, whose purple glow
Adorns the dusky mountain's side:
Not the gay hues of Iris' bow,
Nor garden's artful varied pride,
With all its wreath of sweets could cheer,
Like thee, the hardy mountaineer."—MRS. GRANT.

WILLOW-HERB. *EPILOBIUM.*

GREAT HAIRY WILLOW-HERB. *Epilobium hirsutum.*

Plate 4—*Fig.* 20.

Leaves deeply serrated, hairy. Stem much branched.

Found frequently on river banks, ditches, &c., growing two or three feet high, and bearing in July and August large, pink, five-petaled flowers, each growing along with a leaf, upon a long seed vessel, that at first looks like a stalk to the flower, but afterwards become square, and splits into four valves or pieces, letting out the seeds; each of these is fur-

nished with a tuft of hairs at the top, and thus is blown away by the wind. The stamens are upright, the style cross-shaped. The leaves deeply serrate and very hairy. The whole plant much branched. The calyx five-cleft. The petals heart-shaped.

SMALL FLOWERED HAIRY WILLOW-HERB. *E. parviflorum.*
Plate 5—*Fig.* 1.

Leaves a little serrate. Stem not branched.

This is the only species of the Willow-herb, except the last, which has hairy leaves. It may be known from that by being much smaller, paler in color, and the present plant being very rarely branched; but it grows in similar situations, and blossoms at the same time. Leaves in both have no stalks.

BROAD SMOOTH-LEAVED WILLOW-HERB. *E. montanum.*
Plate 5—*Fig.* 2.

Leaves ovate, toothed, smooth, short stalked.

Grows on cottage roofs, walls, and shady banks, from six inches to a foot in height, and flowers in July. It may be known at once by the leaves, which are quite smooth, and the stigma or top of the style being four-cleft or cross-shaped, which is the case with the two former plants, but not with the next. The flowers are rose-colored, and the stems reddish.

SQUARE-STALKED WILLOW-HERB. *E. tetragonum.*
Plate 5—*Fig.* 3.

Leaves lanceolate, toothed, smooth, without stalks.

Grows on the sides of ditches and such places frequently, is about eighteen inches high, and light green in color. The stems are nearly smooth, somewhat zigzag, and furnished with four projections running along them, which make them appear somewhat square. The leaves are lance-shaped on the lower part of the plant, and oblong above, all of them sharp-pointed. The flowers are small, pink, and seldom open widely. It flowers in July. The stigma is undivided, and the stamens upright.

O. S. Rose-bay Willow-herb, a handsome plant, often cultivated in gardens. Pale Smooth-leaved Willow-herb, rather rare. Marsh Willow-herb, more common. Chickweed-Leaved Willow-herb, and Alpine Willow-herb, both plants of the Highlands.

PLATE V

KNOT-GRASS. *POLYGONUM.*

(PERSICARIA. BUCK WHEAT.)

The plants of this genus vary much in the number of the stamens, sometimes there are only five, at other times six, eight or ten. The styles also vary from one to three, when one only it is always forked.

* *Styles three. Stamens eight or ten. Fruit three-cornered.*

COMMON KNOT-GRASS. *Polygonum aviculare.*

Plate 5—*Fig.* 4.

Stem prostrate. Leaves ovate, blunt. Flowers axillary.

A small, prostrate, wiry, much-branched plant, neither elegant nor useful, growing abundantly on every waste ground, and flowering all the latter part of the summer. Every joint of the stem is furnished with short sheath-like stipules, out of which grow both the leaves and flowers. The leaves are without stalks, of a blunt ovate form. The flowers are red, small, three or four to each leaf, and very nearly sessile.

fl. summer & Autumn

CLIMBING BUCK WHEAT. *Polygonum convolvulus.*

Plate 5—*Fig.* 5.

Stem climbing. Leaves arrow-shaped. Flowers in spikes.

The long climbing stem, growing as it does among the hedges to the length of three or four feet, and the arrow-shaped stalked leaves with which it is beset, at once distinguish the Climbing Buck Wheat. Added to which, the manner of bearing its little whitish-green flowers in very loose alternate leafy spikes, is another mark of distinction.

June & Oct^r

** *Styles one or two. Stamens five or six. Fruit two-edged.*

AMPHIBIOUS PERSICARIA. *Polygonum amphibium.*

Plate 5—*Fig.* 6.

Stamens five. Style one, forked. Spike ovate.

A perennial plant, spreading widely over the surface of rivers and ponds, where its rose-colored, large, ovate, thick, and upright spike of flowers, looks very handsome. The leaves are lanceolate, stalked, serrated, sometimes smooth, at others hairy, and generally lying upon or under the water. The roots are fibrous and surround almost all of the lower joints, while the upper joints of the stem are covered with a very

fl. July & Aug^t

long sheath. The style is cleft or forked towards the top, so that some botanists describe it as two styles joined together half-way up. There is seldom more than one spike of flowers on a stem, and that at the end of it.

Spotted Persicaria. *Polygonum Persicaria.*
Plate 5—*Fig.* 7.

Stamens six. Style one, forked. Spike oblong.

Frequent on moist ground, flowering in July and August, growing upright and branched, one or two feet high. The leaves are either sessile, or with very short stalks, lanceolate, quite smooth, entire on the edges, and often spotted with a dark color. The spikes of flowers are dense, rose-colored or greenish, oblong, stalked, numerous, and growing out of a short yellowish sheath, fringed with hairs. Style as in the last.

Pale Flowered Persicaria. *Polygonum lapathifolium.*
Plate 5—*Fig.* 8.

Stamens six. Styles two, distinct. Leaves ovate, lanceolate.

This plant, which grows abundantly on waste ground and dunghills, is rather difficult to distinguish from the last, because it varies much in appearance. Sometimes the leaves are similarly spotted, but they are wider in proportion and more stalked. The flowers are paler in color. The whole plant larger and often somewhat hairy. The stipules or sheaths are without hairs, and above all, there are in this species two distinct styles. fl. July & Augt

Biting Persicaria. *Polygonum Hydropiper.*
Plate 5—*Fig.* 9.

Stamens six. Style one, forked. Leaves lanceolate.

In flower in the autumn on river banks and all damp places. Known at once by its very long, slender, somewhat drooping spikes, of reddish distant flowers. The leaves are of a pale green, lanceolate, sharp pointed, almost without stalks, and a little waved at the edges. fl Septr

O. S Bistort or Snakeweed—Viviparous Bistort—Roberts' Knot-Grass—Sea-side Knot-Grass—Buck Wheat—Copse Buck Wheat, all belong to the first section; Lax Flowered Persicaria, and Small Creeping Persicaria to the second section.

CLASS 9.—ENNEANDRIA.

(Containing Plants with Nine Stamens.)

The ninth is the smallest of all the classes, having in it only a few foreign plants, among which are the Laurel, the Cashew Nut, and the Rhubarb, and like the seventh it contains but one British plant. This is the

FLOWERING RUSH. *Butomus umbellatus.*
Plate 5—*Fig.* 10.

Which belongs to the order HEXAGYNIA, the plant having six styles. It is found in the ditches and ponds of England and Ireland pretty frequently, and when its *umbel* of fine, large, pink flowers, are surrounded by the narrow, upright, sword-shaped leaves, it is a really beautiful plant, and contrasts finely with the Yellow Flags and White Water Lilies, with which it grows. It is called "The Pride of the Thames," for here

> "The Flowering Rush with its roseate flush
> Reflects the soft tints of a maiden's blush.

Like all water plants it parts with moisture rapidly, and thus when gathered soon droops and becomes withered. This, as well as its native localities, is prettily alluded to in the following extract:— *1st June & July*

> "Mid the Flags that fringe the streamlet's bed,
> The stately Butomus reared her head,
> Like a Naiad crowned with a flowery wreath,
> She rose from the waters that flowed beneath.
>
> "It was lovely to look on that splendid flower,
> So richly endowed with beauty's dower;
> And when we turned from the river's shore,
> To our home the graceful stranger we bore.
>
> "But the glow of her roseate charms had fled,
> When a few fleeting hours had passed o'er her head.
> For no more 'mid the grass in the verdant mead,
> Did the tranquil waters her loveliness feed.
>
> "And fancy might dream that the pale leaves sighed,
> As though they mourned for the flowing tide.
> She could not live from her home afar,
> And she faded before the evening star."—S. WARING.

CLASS 10.—DECANDRIA.

(Containing Plants with Ten Stamens.)

A numerous class, containing many important foreign plants, but none of English growth of any value, except for ornament, but to this end many of them are greatly conducive. Several of those described are handsome, others less common are worth attention. We have in woods the leafless singular plant, called Bird's-nest—also the Winter-green, the Marsh Andromeda, the Strawberry-tree and the Bear Berry, the Golden Saxifrage, the Soap-wort, some of the fragrant tribe of the Pinks, the Wall Penny-wort, so common in North Wales, and some others.

Order 1. *MONOGYNIA.* 1 *Style.*

There are in this order ten British plants, but none of them are common. Four of the number are shrubs—one of these, (the Arbutus or Strawberry-tree,) is frequent in gardens.

Order 2. *DIGYNIA.* 2 *Styles.*

KNAWEL *(Scleranthus.)* Calyx of one leaf; corolla none.

SAXIFRAGE *(Saxifraga.)* Calyx of five leaves; corolla of five petals.

Order 3. *TRIGYNIA.* 3 *Styles.*

CAMPION *(Silene.)* Calyx of one leaf; petals cleft at the top.

STITCH-WORT. CHICKWEED *(Stellaria.)* Calyx five-leaved; petals cleft at the top.

SAND-WORT *(Arenaria.)* Calyx five-leaved; petals not cleft at the top.

Order 5. *PENTAGYNIA.* 5 *Styles.*

* *Calyx of one leaf. Petals* 5.

CORN COCKLE *(Agrostemma.)* Petals entire at the top; capsule of one cell.

CATCH-FLY *(Lychnis.)* Petals cleft at the top; capsule one or five-celled.

** *Calyx either of five leaves, or else deeply five-cleft.*

Stone Crop *(Sedum.)* Capsules five together.

Wood Sorrel *(Oxalis.)* Capsules solitary, of five cells.

Mouse-Ear Chickweed *(Cerastium.)* Petals cloven; capsule one-celled.

Spurry (*Spergula.*) Petals not cloven; capsule five-celled.

KNAWEL. *SCLERANTHUS.*

Annual Knawel. *Scleranthus annuus.*

Plate 5—*Fig.* 11.

This is, as its name implies, an annual plant. It is abundant in most corn fields and gravelly heaths, of a whitish green color, many branched, and laying on the ground, not above two or three inches high, and in flower throughout the summer and autumn. The leaves are opposite, awl-shaped, and every two joined together. The flowers are of the same greenish white color as the leaves, quite stiff and rigid in texture, five-cleft at the edge, rather tube-shaped, and borne in little bunches of four or five together, at the ends of all the smaller, as well as the larger branches. The plant is of no beauty, nor known to be of any value.

O. S. Perennial Knawel, found in Norfolk and Suffolk.

SAXIFRAGE. *SAXIFRAGA.*

White Meadow Saxifrage. *Saxifraga granulata.*

Plate 5—*Fig.* 12.

Root granular. Leaves long stalked, kidney-shaped, lobed.

This is common in meadows in England and the South of Scotland, but scarcely known in the more Northern parts. The flowers are white, large, and showy, and coming into blossom early in the spring. The stem bearing many flowers, is rather hairy, and with deeply-cleft sessile leaves at intervals along it. The most curious part of the plant is the root, which consists of a number of round bulbs or grains, about the size of peas, of a whitish brown color, from which the plant has its Latin trivial name, *granulata*, or grained.

RUE-LEAVED SAXIFRAGE. *Saxifraga tridactylites.*
Plate 5—*Fig.* 13.

Root fibrous. Leaves three or five cleft.

A beautiful little delicate plant, growing three or four inches high, blossoming in April, and found frequently on walls and dry places. Of a fine green color, tinged particularly on the tips of the calyces, and the leaves and stem of a brilliant crimson. The flowers are very small and white.

O. S. Kidney-Leaved Saxifrage—Hairy Oval-Leaved Saxifrage—London Pride Saxifrage, all three confined to Ireland. Starry Saxifrage—Purple Mountain Saxifrage—Yellow Marsh Saxifrage—Yellow Mountain Saxifrage—Alpine Brook Saxifrage—Mossy Saxifrage, (of which there are several varieties). Tufted Alpine Saxifrage—Mossy Alpine Saxifrage and Pedatifid-Leaved Saxifrage. Most of the above are Alpine plants, often cultivated in pots, in the borders, or on rock-work, but found only in a wild state among the mountains of Wales and Scotland.

CATCHFLY. *SILENE.*

BLADDER CATCHFLY. *Silene inflata.*
Plate 5—*Fig.* 14.

Pastures and road-sides are scattered over with plants of the Bladder Campion, though seldom abundantly. It is a much-spreading branched plant, with very smooth, whitish-green, opposite, ovate or lanceolate leaves. The various stems bear loose bunches of large, five-petaled flowers, inclosed in a beautifully veined, and swelled out calyx. It flowers in July, and the seeds, which are very numerous, are ripe a month afterwards. The flowers are white.

O. S. Mossy Catchfly, which covers in large patches the crags and mountain steeps of Wales and Scotland, bearing abundant and most beautiful pink flowers. Sea Catchfly—Spanish Catchfly—English Catchfly—Variegated Catchfly—Nottingham Catchfly—Italian Catchfly—Striated Corn Catchfly—Night Flowering Catchfly, and Common or Lobel's Catchfly.

STITCHWORT. CHICKWEED. *STELLARIA.*

COMMON CHICKWEED. *Stellaria media.*
Plate 5—*Fig.* 15.

Leaves ovate. Stem drooping.

This humble plant is well known to bird fanciers, and though looked upon as a lowly weed, yet it has properties that entitle it to our notice. It is an annual plant, in flower almost

throughout the year, and grows in almost every situation, in damp meadows, and on dry banks, in hedge-rows and over gardens—and varies its appearance so much that the little weed of the walks can scarcely be known as the long, straggling, rampant plant of the moist bank. When luxuriant it has almost always ten stamens, but when stunted often but five, or even three. It may be known at once by its stem, upon which is a thick row of white hairs, which changes its direction at each pair of leaves, being first at one side of the stem, and then at the other. The leaf stalks are somewhat hairy, but the leaves, except the youngest of them, smooth. The flowers are upright, and open from nine in the morning till noon; but if it rains they do not open. After rain they become pendant; but in the course of a few days rise again. It is a remarkable instance of the sleep of plants; for every night the leaves approach in pairs, including within their upper surfaces the tender rudiments of the new shoots; and the uppermost pair but one, at the end of the stalk, is furnished with longer leaf stalks than the others, so that they can close upon the terminating pair, and protect the end of the branch. The young shoots and leaves, when boiled, are similar to spinach, and are equally wholesome. It is a grateful food to small birds and young chickens, from which it is called Chickweed.

GREATER STITCHWORT. *Stellaria holostea.*
Plate 5—*Fig.* 16.

Stem upright. Petals twice as long as the calyx.

In hedge-banks, woods, and thickets, a foot high, and flowers in May. It is an upright brittle plant, with very tapering and sharp-pointed leaves, in pairs. The flowers large, delicately white, of five deeply-cleft petals, and borne in upright, few-flowered, leafy, loose heads. May & June

GRASS-LEAVED STITCHWORT. *Stellaria graminea.*
Plate 5—*Fig.* 17.

Stems straggling. Petals scarcely longer than the calyx.

A more straggling and branched plant than the last, with much smaller flowers. Leaves not so tapering and sharp.

The calyx leaves too are with three lines or veins, which are wanting in the Greater Stitchwort. The present grows in hedge-rows, and on heaths among the bushes, and is in flower in May and June.

O. S. Wood Stitchwort, found in the North—Glaucous Marsh Stitchwort—Bog Stitchwort—Alpine Stitchwort—Many-Stalked Stitchwort; the last two very rare and confined to Scotland.

SANDWORT. *ARENARIA.*

Thyme-Leaved Sandwort. *Arenaria serpyllifolia.*

Plate 5—*Fig.* 18.

Leaves ovate, sessile. Calyx hairy. Flowers white.

A little annual—very common on walls and dry places, from an inch to six inches in height, with small, rather rough, ovate leaves, in pairs. The flowers are very small and white, inclosed in hairy calyces, upon short stalks, which grow out of the joints of the stem, or else tip the upper branches. *Fl. July*

Purple Sandwort. *Arenaria rubra.*

Plate 5—*Fig.* 19.

Leaves linear. Calyx *sticky*. Flowers red.

A plant, growing on sandy and other dry places, totally different in appearance from the last. Its stems are numerous, and laying on the ground. Its leaves fleshy, awl-shaped, and tipped with a white hair. The flowers a beautiful pink, opening only when the sun shines, and closing up before a shower, or in the evening. Indeed, like many other plants, they open and shut at a certain time—thus the *waking* time of our present little beauty, or the time of the flowers being expanded, is from about nine in the morning till three in the afternoon. *Fl. July & Augt*

"Among the loose and arid sands,
The humble Arenaria creeps,
Slowly the purple star expands,
But soon within its calyx sleeps."—A. Strickland.

O. S. Sea side Sandwort—Three-nerved Sandwort, neither of them very rare; Fringed Sandwort, found in Ireland; Norwegian Sandwort, found lately in the Shetland Isles by a child, eleven years old, who is already a good Botanist; Vernal Sandwort—Alpine Sandwort—Level-topped Sandwort, all rare Scottish plants; Fine-leaved Sandwort—and Marine Sandwort, the last so much like the Red Sandwort above described that it is very difficult to tell them from each other.

COCKLE. *AGROSTEMMA.*

CORN COCKLE. *Agrostemma Githago.*

Plate 5—*Fig.* 20.

Common in corn fields, two feet high, flowering in June. Petals large, of a reddish purple, whitish towards the centre, and streaked with a darker color, enclosed in a one-leaved ribbed calyx, with five very long points. Leaves long, lance-shaped, in pairs, growing together at the base. The plant grows upright, is branched and hairy all over. Seeds large, numerous, and black. The Latin name, Agrostemma, means the Crown of the Field, from the beauty of the flowers.

CAMPION. *LYCHNIS.*

RAGGED ROBIN. *Lychnis Flos-Cuculi.*

Plate 6—*Fig.* 1.

Petals four-cleft. Flowers in a loose head.

A beautiful plant—to be found in damp meadows, boggy grounds, and little rills of water. It flowers in June and July, and is well distinguished by its name of Ragged Robin, for the petals are deeply cut, each into four or six narrow strips, which give the flowers a tattered appearance, they are of a fine red color, and so is also the upper part of the stem and the calyces. The stamens are purple. The leaves, in pairs, light green, lance-shaped, and smooth. The stem hairy on the lower part, and sticky near the top, so as to entrap the little insects that settle upon it. This is the case with some other species of the Lychnis, and as this genus differs very little from the Silene, (before described,) they used all to bear the general name of Catchfly.

RED CAMPION. *Lychnis diurna.*

Plate 6—*Fig.* 2.

Stamens and pointals in different plants. Flowers red.

In hedges, banks, &c., flowering in June. Leaves ovate, dark green, tinged with purple. Calyx of the barren plant narrow, that of the fertile one swelled out with a very large oval capsule. Petals deeply cleft at the end. Whole plant hairy, much branched, and two or three feet high. Flowers without scent, opening in the morning.

WHITE CAMPION. *Lychnis vespertina.*
Plate 6—*Fig.* 3.

Stamens and pointals in different plants. Flowers white.

This is often considered but a variety of the last. It resembles it in the shape of the calyx and the petals, but differs in the leaves, which are of a whitish green, larger and thicker. The whole plant more robust, hairy, and branched from the bottom, grows more in fields and among corn. The flowers larger, opening of an evening, and when first expanded smelling very sweetly. The styles are not so much twisted.

fl. from June to Sept.

O. S. Red German Catchfly or Campion—Red Alpine Campion

STONECROP. *SEDUM.*

COMMON STONECROP or WALL PEPPER. *Sedum acre.*
Plate 6—*Fig.* 4.

The Stonecrop, which every one who has a garden, or even a garden pot knows the name of, and admires for its brilliant yellow flowers, and thick-set, bright green, fleshy leaves, grows abundantly over walls, on cottage roofs, and even at the edge of the most precipitous cliffs and precipices, in fact such places as these seem its favorite haunts.

> "Where men who've braved the cannon's roar,
> Are pale with speechless dread,
> The Stonecrop calmly mantles o'er
> Her rugged bed."

The heads of flowers are of three branches and leafy, the plant grows under treatment which would kill most others; the least bit of the stem, when planted, throws out roots and grows, and will even grow a long time after being cut off, so that to dry them for the herbarium, all the species of Stonecrop should be dipped in boiling water for a minute or two before being put in the papers for drying, in order to *kill* them first.

fl. in June

O. S. Orpine, or Livelong, a broad-leaved, pink-flowered kind; Thick-leaved Stonecrop—English Stonecrop—White Stonecrop—Hairy Stonecrop, all with white flowers; Tasteless Yellow Stonecrop—Crooked Yellow Stonecrop—Glaucous Yellow Stonecrop—St. Vincent's Rocks Stonecrop—Welch Rock Stonecrop, all yellow; the four last with flowering stalks six or eight inches high. The name of Stonecrop shows the native habitation of all the species, and from this it will be evident that they are all well adapted to ornament rockwork, &c. &c.

WOOD SORREL. *OXALIS.*

Common Wood Sorrel. *Oxalis Acetocella.*

Plate 6—*Fig.* 5.

This plant is for many reasons interesting. It is a beautiful little plant that grows along the paths of woods and hidden among the grass, and also on many a shady mountain steep. It has no flaring colors, or majestic part, to attract the eye, but is of a pure white, of humble growth, fragile form, and appears too delicate to bear the storms to which it is exposed: for as soon as night approaches it closes its petals, folds up its curious triple leaves, and hangs its flowers towards the earth, thus preserving the more tender parts from injury; but as soon as the morning sun rises they are expanded, and regain their beauty.

> "Flowers shrinking from the chilly night,
> Droop and shut up; but with fair morning's touch,
> Rise on their stems all open and upright,"—Montague.

The flowers and leaves are each upon its own stalk, which is purple and hairy, and the root is creeping and covered at the joints with a number of little tubes, or grains. The calyx five-cleft and green, the leaves purplish underneath, and the flower stalks with two small bracts upon them, an inch or so from the flower. The whole plant is of a very pleasant acid flavor, and although it contains that deadly poison, called Oxalic Acid, or Salt of Sorrel, yet a handful of the leaves may be eaten with perfect safety, and will be found excellent to quench thirst, and revive the tired traveller. The least quantity of the pure Oxalic Acid that would poison a child is the eighth part, (or half a quarter,) of an ounce. This would be yielded by about a pound and a quarter, or perhaps twenty handsful of leaves—a much larger quantity than we should either have patience to gather, or inclination to eat. The method of making the acid is very simple: the juice of the leaves is pressed out and set aside for some days, for the thick parts to settle, then the clear liquor is again set aside, and in a little while needle-shaped crystals of the acid are found at the bottom of the liquor. It is used in bleaching, cleaning boot-tops, taking out ink-spots, &c. Most of the acid used is made from sugar. When the blossoms are past,

the seed vessel from its weight bends downwards until ripe, when it is hidden among the leaves. fl. April & May

> "Wood Sorrel that hangs her cups
> Ere their frail form and streaky veins decay,
> O'er her pale verdure, till parental care
> Inclines the short'ning stems, and to the shade
> Of closing leaves her infant race withdraws."—GISBORNE.

O. S. Yellow Procumbent Wood Sorrel, which is very rare,

MOUSE-EAR CHICKWEED. *CERASTIUM.*

NOTE.—All the species are hairy, have white flowers, and opposite sessile leaves.

BROAD-LEAVED MOUSE-EAR CHICKWEED. *C. vulgatum.*

Plate 6—*Fig.* 6.

Stems erect, Leaves ovate. Capsules upright.

An upright plant, four or six inches high, somewhat branched, with ovate leaves, small flowers. and petals equal in length to the calyx. The capsule is many seeded, grows much beyond the calyx, and opens at the top with ten teeth. Petals deeply cleft. Abundant everywhere in fields and on walls and road-sides, flowering in April and May.

NARROW-LEAVED MOUSE-EAR CHICKWEED. *C. viscosum.*

Plate 6—*Fig.* 7.

Stems prostrate. Leaves oblong, ovate. Capsules drooping.

Very similar in habit to the last, growing also in similar situations, and resembling it in the shape of the corolla and seed vessel. The difference is that the petals are shorter than the calyx; the ripe seed vessel bent back or downwards, the leaves narrower, and the whole plant more straggling, prostrate, and darker in color; it is also a perennial, and the last plant is annual. In flower from May to August. The capsules of both are longer than their stalks.

LITTLE MOUSE-EAR CHICKWEED. *C. semidecandrum.*

Plate 6—*Fig.* 8.

Stem upright. Leaves ovate. Capsules bent back.

April to May

This is smaller and earlier in flower than either of the above. Its petals are shorter than the calyx and the ripe capsule bent

back as in the last, with the erect mode of growth, and ovate leaves of the first; while the petals are less cleft, and the calyx leaves blunter than in either. There are rarely more than five stamens, besides which the capsule is shorter generally than its stalk, and quite straight.

WATER MOUSE-EAR CHICKWEED. *C. aquaticum.*
Plate 6—*Fig.* 9.

Stem spreading. Leaves heart-shaped.

A light green, juicy, straggling plant, two or three feet long, found common on the banks of rivers and ditches, with white and not very large flowers. The leaves are heart-shaped, often waved on the edges. Petals very deeply cleft, scarcely longer than the calyx, capsule ovate, a little longer than the calyx, bent back, upon a long stalk, and opening with five teeth at the top. The whole plant is rather sticky, particularly at the joints of the stems. *fl in July*

O. S. Four-cleft Mouse-Ear Chickweed—Field Mouse-Ear Chickweed—Hairy Alpine Chickweed—Broad-Leaved Alpine Chickweed, all rare except the second which is found in many places.

SPURREY. *SPERGULA.*

CORN SPURREY. *Spergula arvensis.*
Plate 6—*Fig.* 10.

Very common in sandy corn fields, flowering in June and July, and growing six or eight inches high. The leaves are linear, in tufts, twenty or more together growing round the stem. Flower stems some inches long, more and more forked upwards. Calyx leaves ovate, petals not notched at the end, about as long as the calyx. Capsule many-seeded, of five parts or valves, and with their stalks bent downward. Whole plant rough with hairs. The seed is a pretty object for the microscope.

O. S. Knotted Spurrey—Pearl-wort Spurrey, and Awl-shaped Spurrey.

CLASS 11.—DODECANDRIA.

(Containing Plants with more than Ten, and less than Twenty Stamens.)

A small class to which are referred only eight British plants, though formerly the very numerous genus of the Spurge or Milk-wort was placed here, which is now carried to the twenty-first class. The Asarum or Asarabacca, so much used in snuff, is a rare British plant, which belongs to the first order of this class.

Order 1. *MONOGYNIA.* 1 *Style.*

PURPLE LOOSE-STRIFE (*Lythrum.*) Petals six, on the calyx.

Order 2. *DIGYNIA.* 2 *Styles.*

AGRIMONY (*Agrimonia.*) Petals five; inserted on the calyx.

Order 3. *TRIGYNIA.* 3 *Styles.*

MIGNIONETTE (*Reseda.*) Calyx and petals many cleft.

(The orders 4 and 5 contain no British plant.)

Order 4. *DODECAGYNIA.* 12 *Styles.*

HOUSE LEEK (*Sempervivum.*) Calyx twelve cut; petals twelve; capsules twelve.

PURPLE LOOSE-STRIFE. *LYTHRUM.*

SPIKED PURPLE LOOSE-STRIFE. *Lythrum salicaria.*
Plate 6—Fig. 11.

A fine, tall, showy plant, which for three or four months of the summer time ornaments the banks of our rivers and ditches, growing two or three feet high, in many upright spikes of large purple flowers, which are borne in whirls four or five together, with two leaves under each whirl. The calyx is furnished with six long teeth, and between these six short teeth. Upon its tube are inserted the twelve stamens and the six purple petals. The stem is square and somewhat hairy. The leaves in pairs, lance-shaped, and sessile.

O. S. Hyssop-Leaved Purple Loose-strife, small and rare.

AGRIMONY. *AGRIMONIA.*

COMMON AGRIMONY. *Agrimonia Eupatoria.*

Plate 6—*Fig.* 12.

This is a most graceful and elegant plant, not uncommon on the borders of fields, and resembles no other of native growth. Its leaves are pinnate or winged, that is, formed of several leaves joined together on the same stalk. Here there are two or three pair of large leaves, with very small ones between them, and a large one at the end, all deeply serrated, and chiefly growing from the root. There is but one flowering stem, this grows upright from the ground, bears leaves on the lower part, and flowers in a spiked manner above each flower, with a small three-cut leaf or bract under it. The calyx is blunt, five-cleft, green, often spotted with purple. Petals five, yellow. The seed vessel very rough and hairy. The fresh-gathered leaves have a faint smell. *H. June & July.*

MIGNIONETTE. WELD. *RESEDA.*

WELD. YELLOW WEED. DYER'S ROCKET. *Reseda Luteola.*

Plate 6—*Fig.* 13.

Leaves oblong, entire. Calyx four-cleft.

Plant upright, branched, one or two feet high, found on walls, rubbish, &c. Leaves oblong and blunt. Stem furrowed and hollow. Flowers in long spikes, nodding at the top, which Linnæus said follows the course of the sun, being towards the east in the morning, south at mid-day, and west in the evening. (*See* NUTATION *in the Introduction.*) Calyx four-cleft. Petals five, three of them three-cleft, but not always so, as the upper one is often four or even five-cleft. The two lower petals entire. Capsule broad, three pointed. Nectary large, green, on the upper part of the flower.

No plant is used so much as this in dyeing yellow, for the color it yields is very bright and beautiful. It is therefore often cultivated for this purpose. "It thrives," says the author of the Journal of a Naturalist, "in all our abandoned stone quarries, upon the rejected rubbish of the lime kiln, and waste places of the roads, unmindful of frost or of drought, it preserves a degree of verdure when nearly all other vegetation is seared up by these extremes in exposed situations."

The dyers use the whole plant, though it is said that the seeds alone contain the dyeing matter, it does not undergo any other process than being pulled up at the proper season, and tied into bundles. When wanted for use it is merely boiled, (not in iron vessels,) with alum, and the goods, which may be either cotton, woollen, silk, or linen, dipped into the liquor. Blue cloths, &c. dipped in it become green—also the water color, called Dutch Pink, is made from the Weld plant.

WILD MIGNIONETTE. *Reseda lutea.*

Plate 6—*Fig.* 14.

Leaves deeply cleft, waved. Calyx six-cleft.

Not quite so common as the former, nor growing so high, but in similar situations. They have many points of difference, as in this the leaves are very deeply cleft or pinnatifid, with waved edges. The spike of flowers is broader and shorter, and of a deeper yellow. Calyx six-cleft. Petals six—the two upper ones curiously three-cleft, the side petals in two large divisions, and one very small one, the under petals not cleft, but contracted and toothed in the middle. The capsule is much wrinkled, and with three blunt points. The plant, which much resembles the garden Mignionette, has no scent.

There is scarcely any tribe of plants so difficult to understand and describe properly as this is, because the different species vary so much in the number and the structure of their parts. The capsule is always open, and the petals deeply cleft, and these are the only permanent marks of the genus.

O. S. Shrubby White Mignionette, which has a five-cleft calyx and five trifid petals, very rare in a wild state. The sweet Mignionette, (Reseda odorata,) or the Frenchman's Darling, as it is called, and as its name implies, was brought from Egypt to England more than one hundred years ago, and is loved for its sweetness alone—more loved than the gaudy Tulip or the scentless Fritillary, beautiful as they both are.

> "No gorgeous flowers the meek Reseda grace,
> Yet sip with eager trunk yon busy race
> Her simple cup, nor heed the dazzling gem
> That beams in Fritillaria's diadem."

HOUSE LEEK. *SEMPERVIVUM.*

COMMON HOUSE LEEK. *Sempervivum tectorum.*

Plate 6—*Fig.* 15.

One of the easiest plants for the young botanist to examine, and one of the most easily procured, as it grows on almost

every cottage roof. Its beautiful star-like flowers are borne in a head upon a leafy stalk, four or five inches high. Each flower half an inch or more across, enclosed in a green calyx, cleft at the edge into twelve blunt parts. Petals of a fine rose color, twelve in number and pointed, upon each of which lies a deep red stamen, and withinside these, in the centre of the flower, a star of twelve pink styles, afterward turning into as many capsules. The leaves are very fleshy, with hairs around their edges, and grow in rosette-like tufts, and the plant increases by white creeping shoots, which as soon as they get clear of the parent plant grow out into a similar crown of fleshy leaves. It is in flower in July, and may be easily grown by merely sticking the off-sets on to tiling or on a wall, with a bit of clay or earth, where afterwards neither the strongest wind, nor a deluge of rain can remove it. Its Latin name of Sempervivum means Everlasting Life, as it remains uninjured in the hottest sun, and during the sharpest frost. The leaves are used as an application to burns and bruises.

CLASS 12.—ICOSANDRIA.

(Twenty or more Stamens, placed on the Calyx.)

The plants of this class agree very much in structure with each other, and are almost all contained in the same natural order, (Rosaceæ.) Most of them are beautiful, most of them come under the gardener's care, most of them useful, and none of them noxious. The stone fruits indeed yield Prussic acid, and which occasions the peculiar grateful flavor of the kernels, but this is never in sufficient quantity to prove hurtful. Here belong the Apple, Pear, Plum, Cherry, Peach, Apricot, Medlar, Almond, Pomegranate, Quince, Strawberry, Raspberry—the Rose, the Myrtle, and the Allspice, many of the above natives of our own island, or grown in English gardens.

Order 1. *MONOGYNIA.* 1 *Style.*

SLOE. PLUM. CHERRY (*Prunus.*) Cal. five-cleft; petals five.

Order 2. *BI-PENTAGYNIA.* *From* 1 *to* 5 *Styles.*

(*Styles variable in most of the genera.*)

HAWTHORN (*Cratægus.*) Fruit a berry, with two bony seeds.

MEADOW-SWEET (*Spiræa.*) Fruit a capsule, with few seeds.

Order 3. *POLYGYNIA.* *Many Styles.*

ROSE (*Rosa.*) Calyx five-cleft, fleshy, holding the hairy seed.

BRAMBLE (*Rubus.*) Calyx five-cleft, leafy; petals five; fruit of several berries, growing on a fleshy receptacle.

STRAWBERRY (*Fragaria.*) Calyx ten-cleft; petals five; fruit of minute nuts placed upon a fleshy receptacle.

POTENTIL (*Potentilla.*) Calyx ten-cleft; petals five; fruit of minute nuts placed upon a dry receptacle.

TORMENTIL (*Tormentilla.*) Calyx eight-cleft; petals four; fruit as in the last genus.

HERB BENNET (*Geum.*) Calyx ten-cleft; petals five; fruit as in the last, but each nut furnished with a long bent awn.

SLOE. PLUM. CHERRY. *PRUNUS.*

BLACKTHORN, or SLOE TREE. *Prunus spinosa.*

Plate 6—*Fig.* 16.

A thorny, crooked shrub, flowering in April, before any of the leaves make their appearance, presenting at that early period of the year a showy look, the whole bush being white with its numerous blossoms.

"The April air is shrewd and keen,
No leaf has dared unfold.
Yet thy white blossom, radiant sheen,
Spring's banner I behold.
Though all beside be dead and drear,
Undauntedly thy flowers appear.

"All other trees are wont to wear
First leaves—then flowers—then last
Their burden of rich fruit to bear
When Summer's pride is past.
But thou, so prompt thy flowers to show,
Bear'st but the harsh, unwelcome Sloe."—W. HOWITT.

The Sloe, however, is not so unwelcome (at any rate to children.) Cowper says,

> " Or Sloes austere,
> Hard fare ! but such as boyish appetite,
> Disdains not."

In pies, in preserves, and in the making of wine, it is not wholly to be condemned, and after the frost has mellowed it, many persons consider it not unpleasant to the taste. The leaves are lanceolate, serrated, very much of the shape, size, and flavor of those of black tea ; for the commoner sorts of which they are used in large quantities by some of the London grocers. The wood is very hard, knotty, tough and slow-growing ; it is used by the turner ; for the teeth of hay-maker's rakes, walking sticks, handles for whips, &c.

O. S. Wild Plum Tree—Wild Bullace Tree—The Bird Cherry and the Wild Cherry are now and then met with in hedges and woods.

WHITETHORN. HAWTHORN. *CRATÆGUS.*

COMMON WHITETHORN, HAWTHORN, or MAY. *C. Oxyacantha.*

Plate 6—Fig. 17.

This forms the greater part of every hedge throughout the kingdom, throwing out in " the merry month of May" its profuse bunches of delicate and fragrant flowers, and often for miles together the Hawthorn blossoms enliven and enrich the hedge-rows with their surpassing sweetness and beauty. It requires no care in its culture, no rich soil for its sustenance, no shelter from the bleak wind. It blossoms free amid all changes, ornamenting equally the poor man's garden and the rich man's park, and when a fine grown Hawthorn is found upon the brow of a hill, or detached from other trees in some green and grassy slope, I know not that the English landscape, or indeed any other landscape, produces a finer object. Even the country laborer, not satisfied with seeing it growing around him, decorates with whole boughs of it the window of his little cot, adding at the same time fragrance and beauty ; and how much more are the residents of towns and cities content to see again the herald of the fastly approaching summer—and this is not all ; look at the thousands of haws or red fleshy berries it bears in the autumn, and retains through the winter, unless despoiled of them by the blackbirds and the thrushes.

The light-hearted peasantry when they formerly held their May-day gambols, did not forget the Hawthorn, but made it the emblem of Hope, crowning their Maypoles with it, and calling it by the month it blossoms in. The Greek maidens too are decorated on their nuptial day with its sprigs, while larger branches are placed upon the altar, as an emblem of that summer of happiness which they hope to enjoy. With our poets it is no less a favorite. Burns speaks of

"The milk-white Thorn that scents the evening gale."

Cunningham desires to "sit beneath the whitening Thorn," and Shakspeare alludes to the delight of such a seat when he says

"Gives not the Hawthorn bush a sweeter shade
To shepherds, looking on their silly sheep,
Than doth a rich embroidered canopy
To kings that fear their subjects' treachery?
Oh, yes, it doth; a thousand-fold it doth."

MEADOW SWEET. *SPIRÆA.*

MEADOW SWEET, or QUEEN OF THE MEADOWS. *S. Ulmaria.*
Plate 6—Fig. 18.

A beautiful plant rising three feet high, found abundantly in ditches and the borders of meadows. The stem grows upright, is leafly, and bears at the top a thick-branched head of cream-colored delicate flowers. The leaves are pinnate or winged, of two or three pair of leaflets, between which are others very much smaller, the leaflet at the end is larger than the rest, and three-lobed; the whole of the leaf is deeply serrated, and the leaves of the stem grow out of a large green serrated bract. Its flowers are gathered by country children for their sweetness of scent, though they soon wither. The calyx is bent back, and the styles twisted round each other.

O. S. Willow-leaved Spiræa, a shrub common in gardens, and found wild in the North of England and in Scotland; and Common Dropwort, found also in gardens, and in pastures in the South of England.

ROSE. *ROSA.*

SWEET BRIAR ROSE. *Rosa rubiginosa.*
Plate 6—Fig. 19.

This is the true Eglantine so celebrated in song, and it may be known by its scent alone, from all the other species of

PLATE VI

Rose, except from one of them the Rosa micrantha, which is a smaller plant. Our present has some of the prickles hooked, others straight, leaflets hairy. Fruit pear-shaped, smooth, with the calyx remaining upon it. From the fruit of the other the calyx drops off, and thus they may each be known.

In the language of flowers, "for in Eastern lands they talk in flowers," the Eglantine is the emblem of poetry itself, and how well does the sweetness of its leaves, and the delicate tint of its fragrant flowers deserve the universal praise which it has received. Chaucer, Spencer, Shakspeare, Drayton, Dryden, Shenstone, Langhorne, Burns, Keates, and almost all other poets, have been mindful of its charms. I shall give but one extract though I might have produced fifty. *fl. June & July*

"The breeze of Spring, the Summer's western wind,
Robs of its odours none so sweet a flower,
In all the blooming waste it leaves behind
As that the Sweet Briar yields it; and the shower
Wets not a Rose that buds in beauty's bower
One half so lovely: yet it grows along
The poor girl's pathway, by the poor man's door.
Such are the simple folks it dwells among,
And humble as the bud, so humble be the song.

"I love it, for it takes its untouched stand,
Not in the vase that sculptors decorate;
Its sweetness all is of my native land,
And e'en its fragrant leaf has not its mate
Among the perfumes which the rich and great
Buy from the odours of the spicy East.
You love your flowers and plants, and will you hate
The little five-leaved Rose, that I love best,
That freshest will awake, and sweetest go to rest?"

Common Dog Rose. *Rosa canina.*

Plate 6—Fig. 20.

The Dog Rose, or Wild Rose, is common in every hedge, and in every thicket, bringing out its abundant large whitish or pink flowers in June, a fit successor to the beautiful Hawthorn, and accompanying in the winter the red *haws* of the latter with its fleshy, pleasantly-acid, red fruit, known by the name of *hips*, grateful not only to us, but a valuable winter store for the many little songsters of the hedges and the woods.

It is known from the other Roses of England by the prickles which are all hooked, the leaves without hairs, and the upper or ending leaflet of them generally having its point a little

twisted back. Shoots very long and straggling, and fruit red, oval, a little narrowed upwards, and without a calyx.

I know not that this particular species of Rose has called forth many poetic reflections, the following however is pleasing.

" 'Tis the Rose of the desert,
So lonely and wild,
On the green leaf of freedom
Its infancy smiled.
In the languish of beauty,
It buds o'er the thorn,
And its leaves are all wet
With the bright dews of morn.

" Yet 'tis better, thou fair one,
To dwell thus alone,
Than recline on a bosom
Less pure than thy own.
Thy form is too lovely,
To be torn from its stem.
And thy breath is too sweet
For the children of men.

" Bloom on then in secret
Sweet child of the waste!
Where no lip of profaner,
Thy fragrance shall taste.
Bloom on where no footstep
Unhallowed hath trod,
And give all thy blushes
And sweets to thy God!"

O. S. Our Islands boast of more than twenty species of the Rose. We have described but two of the commonest. The Downy-Leaved Rose and the very Spiny Rose are not rare. They are a difficult tribe for even the experienced botanist, and are known from each other by the prickles, the leaves, and the fruit. Were we to search foreign countries we should find hundreds of species, and yet none whatever have been discovered in the Southern hemisphere. Our gardens yield us even thousands of different varieties, and both poets of our own days, and the Troubadours of old, have applied to the Rose for some of their most eloquent passages, making its different kinds emblematic of different virtues, and clothing their finest and most delicate sentiments in the still finer imagery of nature.

BRAMBLE. *RUBUS.*

Common Dewberry. *Rubus cœsius.*

Plate 7—*Fig.* 1.

Stem round. Prickles straight. Leaves of three leaflets. Calyx upright.

The Dewberry is very much like the Common Blackberry. It differs in the fruit, the grains of which are larger and fewer in number, and ripen rather sooner—the leaves have not so many leaflets in them, and they are green underneath. The

PLATE VII

G. Ehret del. et sc.

stem is nearly round, the prickles small and nearly straight, and the calyx encloses the fruit. *Fl. June & July*

BLACKBERRY, or COMMON BRAMBLE. *Rubus fruticosus.*

Plate 7—*Fig.* 2.

Stem cornered. Prickles hooked. Leaves of five leaflets. Calyx bent back.

Who does not know the Blackberry? the fruit of it at least, ripening in the autumn, gathered by the peasant boys, and even sold in the London markets for puddings, &c. When the frost comes it is spoiled, becoming then sour, unpleasant, and harbouring often little caterpillars. Its flowers are not inelegant, but the rough and ragged growth of the plants, their thorny stems, catching hold of every thing around, their long suckers and creeping roots, interfering with and stifling every thing not strong enough or rough enough to struggle through them, have occasioned the Bramble to be likened unto Envy and Malice, which endeavours to tarnish the purest actions and to choke the rising prosperity of the wisest and the best.

O. S. We have many other species of the Bramble, most of them very similar to the Common Blackberry; amongst others are the Raspberry, and the Cloudberry, the fruit of both of which is highly esteemed.

STRAWBERRY. *FRAGARIA.*

WOOD STRAWBERRY. *Fragaria vesca.*

Plate 7—*Fig.* 3.

Surely it is not necessary to describe the Wood Strawberry, it is so common and so well known. Its little red fruit so delicious and so fragrant—its flowers so white and delicate. Its leaves divided into three leaflets, all hairy. Its calyx too of ten pieces, five of them smaller than the rest—its long suckers, trailing on the ground, and sending out another plant, perhaps six or eight inches from the parent; and its little yellow nuts or seeds stuck outside of its fleshy fruit, altogether make it a favorite and interesting plant, brought very often into our gardens, and there blossoming and yielding its fruit throughout the summer and autumn, and even sometimes in the winter.

The amiable St. Pierre was about to write a general history of nature, but was dissuaded from his design by examining a Strawberry plant which grew in his window. In this single object he found so much to learn and to admire, that he desisted from his extensive plan as beyond the powers of even the longest life and highest faculties, and instead of it produced his admirable work "The Studies of Nature," in the first few pages of which we find an animated description of the Strawberry.

Pluck not its flowers, my young friends, and thus destroy its promised fruit, but observe how Wordsworth pleads for it.

"Strawberry blossoms, one and all,
We must spare them—here are many.
Look at it, the flower is small,
Small and low, though fair as any.

"Pull the Daisies, Sister Anne,
Pull as many as you can:
Fill your lap, and fill your bosom;
Only spare the Strawberry blossom!

"Daisies leave no fruit behind,
When the pretty flow'rets die,
Pluck them, and another year,
As many will be growing here.

"God has given a kindlier power
To the favor'd Strawberry flower;
When the months of Spring are fled,
Hither let us bend our walk,
Lurking berries ripe and red,
Then will hang on every stalk,
Each within its leafy bower,
And for that promise spare the flower."

It is not to please the eye and gratify the palate alone that the Strawberry is esteemed, it is valuable as a medicine, purifying and cooling the blood, and it is said to be one of the best remedies for the gout, and that the great Linnæus himself was cured by it.

O. S. The large Strawberry or Hautboy, which is not often found in a wild state, but more commonly cultivated, and shows in a remarkable manner the effects of culture, for from it are derived all the large and delicious varieties brought to table.

CINQUE-FOIL. *POTENTILLA.*

Silver-Weed. *Potentilla anserina.*

Plate 7—Fig. 4.

Leaves pinnate, silky. Stem creeping. Fl. solitary, yellow.

On road-sides, rubbish-heaps, &c., flowering all the sum-

mer. Stem round, creeping along the ground, budding into new plants at intervals, as in the Strawberry. Leaves pinnate of four or five pair of large leaflets, and as many smaller ones between them, all serrate, and white with silvery hairs. One or two flowers, each on its own stem, large, and of a fine dark yellow, growing from every tuft of leaves. Calyx of ten clefts, five of them entire, and the others notched.

Fl. June & July

HOARY CINQUE-FOIL. *Potentilla argentea.*

Plate 7—*Fig.* 5.

Leaves five-lobed. Stem upright. Flowers in clusters, yellow.

Very often met with in gravelly and chalky soils, but not in other places, thus it is a common plant around London, and in the East and South of the Kingdom only. The leaves are five-fingered or digitate, each lobe deeply gashed, alternate in position, quite white underneath, and dark green at top—the upper leaves sessile, with two small bracts at their base—the lower stalked. Stem hairy, erect in growth, and near the top dividing at every joint into various bunches of flowers. Calyx white and silky as the stem, of ten divisons, all entire, but five of them smaller than the others. Petals small, and somewhat heart-shaped.

D°

COMMON CREEPING CINQUE-FOIL. *Potentilla reptans.*

Plate 7—*Fig.* 6.

Leaves five-lobed. Stem trailing. Flowers solitary, yellow.

On pastures and way-sides, abundant everywhere in June and July, and distinguished by its serrated five-lobed, long stalked leaves—by its long creeping stem, which takes root at the various joints, and by its solitary yellow flowers. It most resembles in appearance the next genus, the Tormentil—but this has a ten-cleft calyx and five petals, while the calyx of the Tormentil is eight-cleft, and with but four petals.

Fl. frm June to Sept.r

STRAWBERRY-LEAVED CINQUE-FOIL. *P. Fragariastrum.*

Plate 7—*Fig.* 7.

Leaves three-lobed. Stem creeping. Fl. few together, white.

This used to be called the Barren Strawberry, and it very much resembles the Wood Strawberry in appearance, except

that the fruit does not become fleshy, which is the only distinction between them, but by this alone the Strawberries are always known from the Cinque-Foils or Potentils. It is found in woods, and blossoms in June and July.

O. S. Shrubby Cinque-Foil—Rock Cinque-Foil—Vernal Cinque-Foil—Alpine Cinque-Foil—Saw-Leaved Cinque-Foil—White Cinque-Foil, and Three-toothed Cinque-Foil, all rare mountain plants.

TORMENTIL. *TORMENTILLA.*

COMMON TORMENTIL. *Tormentilla officinalis.*
Plate 7—Fig. 8.

On every bank—in flower from early spring till late in autumn. The stems trail upon the ground, and are set with joints, where leaves, roots, and flowers are produced. The leaves are of three divisions and sessile, and by these the plant is known from the other species, (Trailing Tormentil.) The petals are generally four in number, but sometimes five are found. Flowers yellow. Root thick, woody, and black. It is used in medicine, and by the Laplanders as a red dye for leather.

AVENS. *GEUM.*

COMMON AVENS. HERB BENNET. *Geum urbanum.*
Plate 7—Fig. 9.

In woods and hedges, flowering in June and July, one or two feet high, rather straggling in habit, with small, yellow, five-petaled flowers. Leaves pinnate, with about two pair of small leaflets, and a terminal one, which is very large and roundish, often somewhat lobed, and toothed or jagged on the edges; those from the root are on long foot-stalks. The seeds are covered with hairs, armed with a long jointed awn or bristle, and collected into a round head, which is dark colored.

O. S. Water Avens, not very uncommon in marshes and watery places.

CLASS 13.—POLYANDRIA.

(Containing Plants with many Stamens, generally more than Twenty, inserted upon the Receptacle, and not upon the Calyx, as in the last. It is necessary particularly to observe the insertion of the Stamens in this and the last class—because in that are no poisonous Plants, while in this there are several very deadly.)

Here are collected together most of the plants in which are found more stamens than twenty, it is therefore the last in which number is considered. England produces several plants of Polyandria of great interest and beauty, some of them easily procured wild, as the Poppy and the Water Lily; others the frequent occupants of gardens—for example, the Peony, the Lime or Linden Tree, the Bear's-foot, the Larkspur, the Monk's-hood, the Columbine, the Pheasant's Eye, and the Trollius or Globe Flower.

Order 1. *MONOGYNIA.* 1 *Style.*

* *Petals four; calyx of two leaves, falling off.*

Poppy *(Papaver.)* Capsule of one cell, opening by holes.

Horned Poppy *(Glaucium.)* Capsule of two cells, opening by valves.

Celandine *(Chelidonium.)* Capsule of one cell, opening by valves.

** *Petals more than four; calyx of three, four, or five leaves.*

Rock Rose *(Helianthemum.)* Petals five; cap. three-valved.

Water Lily *(Nymphæa. Nuphar.)* Petals numerous; fruit many-celled.

Order 2. *PENTAGYNIA. Styles from two to five.*

The six British plants of this order are rarely found wild, though common in gardens. They are the two Hellebores, Peony, Larkspur, Monk's-hood, and Columbine.

Order 3. *POLYGYNIA. Many Styles.*

* *Petals none, except in Ranunculus.*

MEADOW RUE *(Thalictrum.)* Calyx of four or five leaves, green; seeds without awns.

VIRGIN'S BOWER *(Clematis.)* Calyx of four to six leaves, green; seeds feathery.

WIND FLOWER (*Anemone.*) Calyx of five to nine leaves, colored; seeds not in a seed vessel.

MARSH MARIGOLD (*Caltha.*) Calyx of five or more leaves, colored; seeds in follicles.

CROW-FOOT. BUTTERCUP (*Ranunculus.*) Calyx of five leaves; petals five, with a scale at the base of each; seeds in heads.

POPPY. *PAPAVER.*

COMMON RED POPPY. *Papaver Rhœa.*
Plate 7—Fig. 10.

My young readers you all know the Poppy, and I suppose you would describe it as a scarlet flower that grows in the corn field. This is not enough for me to tell it from the four other sorts that grow in England — nor even from the totally-different Scarlet Pimpernel which is found so often beside it. How then shall a stranger know it? Thus—root fibrous, annual. Calyx green, hairy, of two leaves, which fall off when the flowers open. Petals four, much wrinkled when first opening, with wrinkled edges, broad and lapping over each other, soon falling off, and of a fine scarlet color. Stamens purple. Stem hairy, branched, upright, bearing leaves and flowers. Root leaves stalked. Stem leaves sessile—both sorts deeply and doubly cleft, and very hairy—hairs all spreading-out as wide as possible. Seed vessel nearly round, and quite smooth, crowned with eight dark rays, which are the styles. Juice of the plant milky. By these marks the present species may be known from all others in the world, and this is the true art and use of botanical descriptions.

Poppies are the emblem of Sleep, for from a white species, which is very common in the East, and now and then found wild in England, opium is obtained—a drug of powerful effect

in producing sleep and stilling pain, yet at the same time a most deadly poison, and that produced from our common species is of the same effect, but rather milder in power.

" Within the infant rind of this small flower
Poison hath residence, and medicine power.
But tempered well and wisely tasted
It warms the bosom that lay wasted.
Soothes pain, and labor, and disease,
And sheds a magic oil on passions' stormy seas."

MORAL OF FLOWERS.

The opium is obtained thus—the plants, when fully grown, are cut and gashed with knives, which occasions the white juice to run out. This soon dries in the sun, when it is collected, and formed into large cakes. Laudanum is made by dissolving opium in spirits of wine.

None of the Poppies have any fragrance; nothing but a disagreeable odour exhales from them, and even the virtues which they really possess, must be administered by so skilful a hand that they may well be considered more baneful than useful, and however their flaunting gaudiness may attract the eye it wins not the affection.

" Poppy! thy charms attract the vulgar gaze,
And tempt the eye with meretricious blaze.
Caught by the glare, with pleasure they behold
Thy glowing crimson melting into gold.
In vain to nobler minds thy lure is spread,
Thy painted front, thy cup of glowing red,
Beneath thy bloom such noxious vapour lie,
That when obtained and smelt we loathe and die."—TAYLOR.

O. S. Long Prickly-Heady Poppy—Round Rough-Headed Poppy—Long Smooth-Heady Poppy, (all red,) and White Poppy.

HORNED-POPPY. *GLAUCIUM.*

YELLOW HORNED-POPPY. *Glaucium luteum.*

Plate 7—Fig. 11.

Take a walk along the sea beach, almost anywhere around the Kingdom, in July and August, and on the sandy hillocks, just above high-water mark, you will find the Horned-Poppy.

" There bright as gems of fairy lore,
Or Eastern poets dream,
The Horned-Poppies gild the shore
With sunny gleam.

" The threatening clouds, and tempests dark,
No terrors have for them.
When billows whelm the gallant bark
From stern to stem!"

Its flowers are numerous, very large and handsome, of a fine orange color, of four rumpled petals, so fleeting that in a very few hours they drop off, and are succeeded by very long, smooth pods. The whole plant may be two feet high, spreading and much branched, of a whitish-green color, with rough, deeply indented, thick, sessile leaves.

O. S. Scarlet Horned-Poppy, and Violet Horned-Poppy, both very rare.

CELANDINE. *CHELIDONIUM.*

COMMON CELANDINE. *Chelidonium majus.*
Plate 7—*Fig.* 12.

On banks, particularly near towns and cities, a straggling and branched plant, very brittle and tender, full of an orange-colored sap or juice. The flowers are yellow, grow in long-stalked tufts, three or four together, enclosed at first in a two-leaved calyx, which is soon thrown off. Petals four, yellow, small, lasting but a short time. Seed-vessel long, large, and smooth. Stems hairy. Leaves less hairy, pinnate, deeply cleft, and scolloped. Leaflets running down the leaf-stalk so as to join each other. It flowers in June and July. The orange juice is very poisonous, and is often used to cure warts upon the hands, and ringworms upon the head.

ROCK ROSE. *HELIANTHEMUM.*

COMMON ROCK ROSE or CISTUS. *H. vulgare.*
Plate 7—*Fig.* 13.

A low, procumbent, branched, and delicate shrub, which covers many a hill-side and bank in the rocky and chalky parts of England, blossoming in July and August. The flowers of all the tribe are very fleeting, they last but a few hours, when they are succeeded by others. The calyx is of five leaves, two of them very small. Corolla of five yellow petals. Flowers stalked, several together on the end of the branches, and each attended with a bract. Leaves opposite, oblong, stalked, dark green, their edges a little doubled back, with two stipules at their base, and, as well as the younger stems and flower-stalks, hairy.

O. S. Hoary Dwarf Rock Rose—Spotted Annual Rock Rose—Ledum Leaved Rock Rose—and White Mountain Rock Rose, all very rare.

WATER LILY. *NYMPHÆA.*

White Water Lily. *Nymphæa alba.*

Plate 7—Fig. 14.

The root is creeping. Leafstalk round. Calyx of four white leaves, tinged with green outside, and often streaked with pale pink within. Petals in several rows, white. Stamens leaflike, bright yellow. Stigma of sixteen rays rising from the seed vessel, which contains as many cells, full of seeds. Flower three or four inches over when expanded, opening to the morning light about seven o'clock, and closing about four in the afternoon, when it droops, hangs its head, and lies languidly upon the still waters till the morrow's sun again calls it into life and beauty. It blossoms at Midsummer and ornaments the still parts of many of our rivers, and Highland lakes.

"The Lady of the Lake," "The Naiad of the River," and "The Swan among Flowers," are three among the numerous names borne by this splendid plant, and no one, however they may disregard the beauties of nature in general, can witness it covering the dark waters of some charming pool or lake, with its broad, round, and dark green leaves, and offering to the sun at intervals among them its snow-white, large, and cup-shaped flowers, without admiring its surpassing beauty and majesty.

> "Come seek the Lily's still, calm haunts, and see
> The waters sporting round their pearly cups,
> If ye e're gazed on aught more beautiful,
> Oh, tell me what it was, for ne'er have I."

And again the same fair authoress, Miss Twamley, writes.

> "Oh, come to the river's brink, come to us there,
> For the White Water Lily is wondrous fair,
> With her large broad leaves on the stream afloat,
> Each one a capacious fairy boat.
> The Swan among Flowers, how stately ride,
> Her snow-white cups on the rippling tide."

Yellow Water Lily. *Nymphœa lutea.*

Plate 7—Fig. 15.

Calyx of five leaves. Petals numerous and yellow.

The Yellow Water Lily, though neither so large nor so beautiful as the last, is yet a fine flower and contrasts well with it, when they are growing together. The calyx is very much

larger than the petals and of a yellow color. Petals small, in one row. Stamens very numerous, yellow, strap-shaped, at first closing upon the stigma, but when their pollen is shed, they are bent back. Stigma forming the top of the fruit, rayed, entire on the edge. Fruit, or seed-vessel, shaped like a bottle, and as the flowers smell like brandy, they are often called "Brandy Bottles." Flowering at the same time, and growing in the same places as the white species. This is now considered a different genus, called NUPHAR.

MEADOW RUE. *THALICTRUM.*

COMMON MEADOW RUE. *Thalictrum flavum.*
Plate 7—*Fig.* 16.

Stem erect, branched, leafly, furrowed, growing two or three feet high, in wet meadows, and on river banks, flowering in July. Flowers very many, in large branched heads, appearing as if formed of a bunch of yellow threads, the stamens and styles being very numerous, not enclosed in a corolla, and with a very small calyx. Leaves doubly pinnate, each leaflet cut into three large teeth at the top.

O. S. Alpine Mountain Rue—Larger Mountain Rue.

TRAVELLER'S JOY. *CLEMATIS.*

COMMON TRAVELLER'S JOY. VIRGIN'S BOWER. *C. vitalba.*
Plate 7—*Fig.* 17.

In the East and South of England, where chalk abounds, this is very frequent in hedge-rows and thickets, but rare in the North of the Kingdom, flowering during the latter part of the summer and autumn. Stem very long, climbing, branched. Leaves pinnate, their stalks and midribs clinging round the twigs of the bushes. Leaflets with a few deep notches. Petals of a thick waxy appearance, cream-colored. Stamens numerous, yellow. Styles, and consequently seeds, also numerous. Each seed as it ripens becomes furnished with a long feathery, white and soft awn, so that the whole mass or head of them is very beautiful, and so light, that the smallest breath of air disturbs them. fl in July

"To later Summer's fragrant breath,
Clematis' feathery garlands dance."

Flowers very fragrant, three together, each on its own stalk, in branched, leafy, loose, rigid panicles. Their sweetness and the intertwining growth of the stems has occasioned our flower to be the emblem of filial affection.

"And gently as Clematis' clasping stem
Twines the sear leaf, and screens it from the blast,
So filial hearts, their tender care must cast
Around the mother plant that once supported them."

ANEMONE. *ANEMONE.*

WOOD ANEMONE. WIND FLOWER. *Anemone nemorosa.*

Plate 7—Fig. 18.

A pretty little plant of the woods and shady lanes, companion to the Violet and the Primrose, flowering in the stormy month of March, (and therefore called the Wind Flower;) though without the sweetness of either, it is yet a favorite for its delicate white or blush-colored, solitary, drooping, six-petaled flowers, growing upon the summit of its only stem, and wafted here and there by every breeze that passes over it. Three leaves grow out of the same part of the stem, each leaf stalked, five-lobed, lobes deeply toothed. Root leaves of the same shape. Root creeping, black.

"Nymph of the wood and forest glade!
In thy own fair vestal robes arrayed.
In the calm of the silent sylvan bowers,
'Tis sweet to gaze on thy drooping flowers.
Chaste and pure as the driven snow,
Yet faintly tinged with a purple glow.
Like mountain crests,
On some Alpine height,
When the snow-drift rests
In the evening light!

"Nymph of the wood and the sheltered glade,
I would linger with thee in the forest shade.
I would sit by the secret fount along,
Soothed by the waters lulling tone.
There's a lesson of hope in that woodland flower,
While we mark the deep traces of love, and of power.
In her lowly bed,
By the dew-drops fed,
Mid the beauty that dwells
In her drooping bells."—THE WILD GARLAND.

O. S. Pasque-Flower Anemone—Blue Mountain Anemone, and Yellow Wood Anemone, the last very rare.

MARSH MARIGOLD. *CALTHA.*

COMMON MARSH MARIGOLD. *Caltha Palustris.*
Plate 7—*Fig.* 19.

Every where in ditches and on river banks in the early Spring, bearing large, yellow flowers without a calyx, a flower and a leaf growing together, and alternate on the stem, which is large, hollow, striped, and fleshy. Leaves from the root, stalked, heart-shaped, scolloped, those of the stem sessile, toothed, triangular, or kidney-shaped. Capsules numerous, generally ten or twelve. The country people in many places pluck the young flower buds and pickle them instead of capers. The whole plant is, like many others of this class, poisonous.

H. May & June

CROW-FOOT. *RANUNCULUS.*

* *Flowers white.*

WATER CROW-FOOT. *Ranunculus aquatilis.*
Plate 7—*Fig.* 20.

Leaves roundish, lobed, or else finely cleft. Petals large.

Floating in shallow ponds and such places, in such profusion that the whole surface is made white with its abundance, the plants being very long, and the flowers as numerous as leaves, the one and the other always growing together. Petals large, white, with yellow towards the centre, and yellow scales, with a smooth, upright, five-leaved calyx. Leaves, when above the water, roundish, three-lobed, cut—when under water, becoming split into a number of thin, branched, thread-like divisions.

IVY-LEAVED CROW-FOOT. *Ranunculus hederaceus.*
Plate 8—*Fig.* 1.

Leaves roundish, kidney-shaped. Petals small.

A small creeping plant, generally upon the mud of half dried-up ditches. The flowers are white, and very small. The leaves of a round kidney-shape, of three or five round lobes, often with a dark stain on them, growing several together, with roots also from the same joints. The seeds smooth and drooping, leaves and flowers stalked. Whole plant small, juicy, and smooth. Blossoms from June to September.

PLATE VIII

** *Flowers yellow.*

LESS SPEAR-WORT. *Ranunculus Flammula.*

Plate 8—*Fig.* 2.

Leaves linear, lanceolate. Calyx five-leaved.

In damp heaths, borders of ditches, marshy ground, &c. Directly known by its leaves, which are not divided as they are in every other common species of the Ranunculus, except in the next, where they are of a very different shape. The upper leaves are linear, and without stalks—those from the root stalked, lanceolate, and a very little serrated. Calyx and stem smooth. Blossoms in July.

PILE-WORT. LESSER CELANDINE. *Ranunculus Ficaria.*

Plate 8—*Fig.* 3.

Leaves heart-shaped, toothed. Calyx three-leaved.

This is the earliest ornament of our meadows, where in March and April it is as abundant as the common Buttercup at a later season. It is very distinct, however, from it. The root is composed of a bunch of white, fleshy, club-shaped knobs. Leaves many from the root, heart-shaped, toothed, and stalked—the two or three on the stem of the same shape, but smaller. Petals eight or nine, deep yellow. Calyx of three spreading leaves. Whole plant quite smooth, and growing three or four inches high, with but one stem, and a single flower upon that. It has thus been celebrated by Wordsworth, under the name of

THE SMALL CELANDINE.

"There is a flower, the Lesser Celandine,
That shrinks, like many more, from cold and rain,
And the first moment that the sun may shine,
Bright as the sun himself is out again!

"When hailstones have been falling, swarm on swarm,
Or blasts the green fields and the trees distrest,
Oft have I seen it muffled up from harm,
In close self shelter, like a thing at rest,

"But lately, one rough day, this flower I passed,
And recognized it, though an altered form.
Now standing forth an offering to the blast,
And buffeted at will by rain and storm.

"I stopped—and said, with inly-muttered voice,
'It doth not love the shower, nor seek the cold.
This neither is its courage, nor its choice,
But its necessity in being old!'"

CELERY-LEAVED CROW-FOOT. *Ranunculus sceleratus.*

Plate 8—*Fig.* 4.

Leaves smooth, three-lobed. Calyx smooth, spreading out.

A juicy, erect, beautiful plant, growing in ditches and muddy places, smooth all over, except the stem, which is slightly hairy, about one foot high, and hollow. The root leaves are very glossy, roundish, kidney-shaped, in three cut lobes, upon long stalks—stem leaves, (as they are mostly in the other species,) narrower, more deeply cut, and nearly sessile. Petals very small. Seeds very numerous, collected in an oblong head, quite smooth, and which is always to be seen, as a green body, in the middle of the small yellow flowers.

fl. for. June to Sept.

The Latin name signifies the Wicked Ranunculus, its juice is very inflaming or acrid, and when rubbed upon the skin occasions it to look red and blistered. The begging impostors, who used once to sit in the streets, or crawl along the highways to excite compassion by their apparently ulcerated limbs, employed this plant to produce the effect. I once saw a mendicant using it. He told me it was applied as a remedy for a wound he had received. I was then a child, but the slight knowledge of botany I had acquired enabled me to detect an impostor and a hypocrite.

UPRIGHT MEADOW CROW-FOOT. *Ranunculus acris.*

Plate 8—*Fig.* 5.

Leaves hairy, three-lobed. Calyx hairy, upright. Stem upright.

Root fibrous. Stem upright, hairy, one or two feet high, hollow, and round all the way up. Leaves hairy, three-lobed, each lobe in three smaller lobes, and each of these cleft or toothed—stem leaves no so much divided. Calyx hairy, upright, or almost spreading, and not bent downwards. This is so much like the bulbous-rooted Crow-foot that they are both called by the name of Buttercup, and so is also the next species, which is equally common. It is acrid in qualities, like the others.

CREEPING CROW-FOOT. *Ranunculus repens.*

Plate 8—*Fig.* 6.

Leaves hairy, three-lobed. Calyx upright. Stem creeping.

In character quite between that last described and the next, growing in similar places, and flowering at the same time. It differs from the last, only, in having the flower stalks furrowed, and the leaflets longer stalked. It differs from the next in its calyx, which is upright, and its root, which is fibrous. It differs from them both in having creeping stems.

BULBOUS-ROOTED CROW-FOOT. *Ranunculus bulbosus.*
BUTTERFLOWER. BUTTERCUP. KINGCUP. GOLDCUP.

Plate 8—*Fig.* 7.

Leaves hairy, three-lobed. Calyx bent back. Stem upright.

Root bulbous. Leaves as in the two former. Stem furrowed on the upper part. Calyx bent back, so as to lie close to the stem. Whole plant very hairy, covering whole meadows in May and June with its numerous yellow glossy flowers. Such is the Common Buttercup, a plant perhaps better known than any other which grows, and which has as many names, and as many stories attached to it as any, and yet it is of no value whatever. It is so poisonous that no animal will eat it, no insect is ever found upon it, and not even the bee comes to it for honey.

> "He breakfasts, dines, and most divinely sups,
> With every flower, save golden Buttercups.
> On whose proud bosoms he will never go,
> But passes by with scarcely 'How do ye do?'
> Since in their showy, shining, gaudy cells,
> Haply the Summer's honey never dwells."—CLARE.

It is not used even in medicine, and put to no purpose in the arts. Children, however, often pull up the plants for the sake of eating the clubbed root, liking the hot and peppery taste which they have, and not knowing that this flavor is the poisonous substance that they should avoid, which is even in still greater abundance in the stems and leaves. The beauty of the blossoms has rendered the Buttercup a favorite plant, and how often do we see whole troops of children loaded with these bright flowers, which they hold under each other's chins, and viewing the reflection of its glossy yellow petals upon the

skin, predict in sport that their little companions are *fond of butter*, and that they will enjoy at some future period some unexpected harvest of gold, or of happiness.

"For golden Kingcups promise future wealth."

This species blossoms earlier than the two former, so early indeed that some of the flowers may be found in the very first few warm days of Spring.

"Welcome little Buttercups,
Oh, the pretty flowers,
Coming e'er the Spring time,
To tell of sunny hours.
While the trees are leafless,
While the fields are bare,
Golden, glossy Buttercups,
Spring up here and there.

"Welcome little Buttercups,
Welcome Daisies white,
Ye are in my spirit
Visioned, a delight,
Coming e'er the Spring time,
Of sunny hours to tell,
Speaking to our heart of Him,
Who doeth all things well."—A. STRICKLAND.

O. S. Great Spearwort—Grassy Crowfoot—Alpine White Crowfoot—Wood Crowfoot—Pale Hairy Crowfoot—Corn Crowfoot—Small Flowered Crowfoot; some of them not uncommon. They are called Crowfoot because the leaves are spread out like the foot of a bird.

CLASS 14.—DIDYNAMIA.

(Containing Plants with two long and two short Stamens.)

The plants of the class Didynamia, with the addition of Sage and a few others, form the natural order Labiatæ; they have a great general resemblance to each other in the shape of the flowers, which in all of them are of one petal, two-lipped, either gaping or personate; many are of strong and pleasant scent, as the Lavender, and of valuable medicinal properties. Few of them have showy flowers, and therefore few are cultivated as ornamental plants; the Foxglove and the Snapdragon are however exceptions. A greater number

find a place in the kitchen garden, being useful as potherbs, among these we have of native growth the Thyme, the Basil, the Marjoram, the Horehound, and the useful tribe of the Mints, of which the Pennyroyal is one. It is a difficult class for the young botanist, particularly in distinguishing the various genera, longer characters are therefore necessary.

Order 1. *GYMNOSPERMIA. Seeds naked.*

NOTE.—All of this order have gaping flowers, borne in heads or whirls; square stems; and opposite leaves.

* *Calyx five toothed, but not lipped.*

MINT *(Mentha.)* Corolla tube short, limb nearly regular, four-cleft, the upper division notched; stamens distant.

MARJORAM *(Origanum.)* Corolla tube long; limb two-lipped, the upper lip nearly flat, lower of three nearly-equal divisions; stamens distant; flowers attended with numerous bracts.

GERMANDER *(Teucrium.)* Corolla without the upper lip: lower lip of five divisions, four small, like teeth, the lowest large, rounded; tube partly cleft; stamens long.

BUGLE (*Ajuga.*) Corolla with a very small upper lip, and that notched; stamens long.

NOTE.—The only real difference between these two last is that the corolla of Germander is cut at top partly down the tube, but here the upper cut is not deeper than the rest.

BLACK HOREHOUND (*Ballota.*) Corolla upper lip small, notched or scolloped, a little hollow, upright; lower lip three-cleft, the middle division broadest and emarginate.

HEMP NETTLE *(Galeopsis.)* Tube of the corolla swelled; upper lip arched, notched; lower lip of three divisions; and two teeth on the upper side.

DEAD NETTLE (*Lamium.*) Tube of the corolla swelled; upper lip entire, arched, large; lower lip two-lobed, and toothed at the sides.

BETONY (*Betonica.*) Tube of the corolla not swelled; upper lip erect, small; lower lip three-cleft, spreading out, the lower division largest and entire, or nearly so.

Woundwort (*Stachys.*) Upper lip of the corolla arched, small; lower lip three-lobed, with the two side lobes bent back, all entire or nearly so.

Ground Ivy. (*Glechoma.*) Upper lip of the corolla two-cleft; lower lip three-lobed, middle lobe large, flat, and with one notch; anthers before bursting approaching in pairs and forming two crosses.

**Calyx ten toothed.*

Horehound (*Marrubium.*) Upper lip straight, narrow, cleft; lower lip three lobed, the middle lobe large, with one notch at the end; stamens very short.

*** Calyx two lipped.*

Upper lip three-toothed or cleft; lower two-toothed.

Thyme (*Thymus.*) Corolla nearly regular, four-cleft, the upper division broadest, flat, and with one notch; lower lip of three equal lobes.

Self-Heal (*Prunella.*) Corolla with the upper lip nearly entire and arched; lower lip three-cleft; filiments with two teeth at the end, one of them bearing the anther.

Order 2. *ANGIOSPERMIA. Seeds in a capsule.*

The following have gaping flowers, but not in whirls, nor yet are the stems square, nor leaves always opposite.

Calyx irregular.

Red Rattle (*Pedicularis.*) Calyx deeply crenate and jagged; upper limb of the corolla flattened sideways, arched; lower one flat, three-lobed; capsule two-celled.

*** Calyx five cleft.*

Toad Flax (*Linaria.*) Corolla personate, spurred; upper lip two-cleft; lower lip three-cleft, swelled-up in the middle; capsule swelled, of two cells, opening by teeth.

Snap-Dragon (*Antirrhinum.*) Corolla as in Toad Flax, but not spurred; capsule of two cells, opening by three pores at the end.

FIGWORT *(Scrophularia.)* Corolla roundish, with two short lips, the upper two-lobed, the lower three-lobed, the under lobe bent back; capsule two-celled, two valved.

FOXGLOVE *(Digitalis.)* Corolla bell-shaped, four or five-lobed, unequal; capsule ovate, of two cells.

VERVAIN *(Verbena.)* Corolla tubular, nearly regularly five-cleft; stamens very short, sometimes only two; seed two or four in a very thin capsule.

** *Calyx four cleft.*

BARTSIA *(Bartsia.)* Upper lip of the corolla arched, entire, lower lip three-cleft, equal, entire, bent back; capsule two-celled, many seeded.

EYE-BRIGHT *(Euphrasia.)* Upper lip of the corolla cleft and notched; lower lip of three lobes, nearly equal, all notched; capsule two-celled.

YELLOW RATTLE *(Rhinanthus.)* Calyx puffed out, upper lip of the corolla flattened sideways; lower lip three-cleft, flat, each lobe entire; capsule of two cells and two lobes, blunt.

COW-WHEAT *(Melampyrum.)* Upper lip of the corolla flattened sideways, and turned back at the edge, lower three-cleft; capsule two-celled, two-seeded, opening on one side.

BROOM-RAPE *(Orobanche.)* Calyx sometimes of only two leaves, each of these being deeply cleft; corolla four or five-cleft, irregular; capsule two-valved, many seeded.

MINT. *MENTHA.*

HAIRY MINT. *Mentha hirsuta.*

Plate 8—*Fig.* 8.

This is the only Mint which is really common, it is found almost everywhere on river banks, and in ditches, bearing its flowers in very thick whirls at the top and down the stem, in the axils of the three or four upper pair of leaves. Flowers pinkish-purple. Stamens longer than the corolla. Leaves ovate, hairy, serrated, dark green, very generally tinged with red or purple. Calyx hairy, with the hairs bent upwards.

Stem hairy with the hairs bent downwards. The plant varies much in size from a foot to three feet high, flowering in August and September. The whole plant smells very strongly like Peppermint.

O. S. Horse Mint—Round Leaved Mint—Spear Mint, which is so common in gardens and used to eat with peas, lamb, &c.—Peppermint which yields a fine and fragrant oil, is extracted thus:—The plants are first soaked in water for about a week, which softens the skins of the leaves and the little bags that contain the oil—they are then put into a still with water, and this being heated, the steam rises, and carries with it the oil of the plants. The steam is now condensed by passing through a cold copper, or leaden vessel, and thus the oil which has passed over with the water, settles and is taken care of. In the same way other vegetable oils are made—as oil of Lavender. For example, a teaspoonful, added to a pint of spirits of wine, makes very excellent Lavender water; or returning again to the Peppermint, the same quantity added to a pound of melted lump sugar, and then cut out in the proper shape, makes a like quantity of superfine Peppermint drops. The other British species of Mint are the Bergamot Mint—the Sharp-Leaved Mint—the Tall Red Mint—the Bushy Red Mint—the Narrow Leaved Mint—the Corn Mint—the Rugged Field Mint, and the Penny-Royal.

MARJORAM. *Origanum.*

Common Marjoram. *Origanum vulgare.*

Plate 8—*Fig.* 9.

Common only in dry chalky places, bearing its small red pretty flowers which open in July, in large branched upright heads, that look like a large bunch all of flowers. These flowers have not merely a calyx to defend them, but a number of bracts or little leaves which fold over each other, sometimes green, but more often tinged with purple. Leaves ovate, blunt, some of them shortly stalked and entire. It grows about a foot high, and now and then bears white flowers; is used much by cooks on account of its very sweet, pleasant, and aromatic flavor.

GERMANDER. *TEUCRIUM.*

Wood-Germander, or Wood-Sage. *Teucrium Scorodonia.*

Plate 8—*Fig.* 10.

The Wood-Sage rears its compound spikes of flowers among the bushes of dry thickets and heaths in July and August. The flowers are of the most delicate cream-color and the four long stamens of a fine red. The calyx is five-cleft with the upper division much larger than the rest. The leaves stalked, hairy, long heart-shaped, crenate, and very much wrinkled,

like a sage leaf, and from this the plant is called Wood-Sage. Its taste is very bitter, and it grows two feet high.

O. S. Water Gerander and Wall Gerander, both rare plants.

BUGLE. *AJUGA.*

Common Bugle. *Ajuga reptans.*

Plate 8—*Fig.* 11.

The sides of ditches and the moist parts of meadows and woods is where it grows—from April to June its time of flowering—three to six inches its usual height. The lower part of the stem lies on the ground, the flowering part upright. Leaves nearly smooth, fleshy, without stalks, ovate, crenate, near together, and often tinged with purple. Flowers five or six to each pair of leaves, blue or sometimes pink.

O. S. Pyramidal Bugle, and Alpine Bugle, both rare Scottish plants—Ground Pine or Yellow Bugle, not uncommon in the sandy fields of Kent and Surrey.

BLACK HOREHOUND. *BALLOTA.*

Common Black Horehound. *Ballota nigra.*

Plate 8—*Fig.* 12.

To be found in almost every hedge around London and other cities and towns throughout the summer and autumn, a stiff, straggling, branched, upright plant, not very handsome, with purple flowers that soon fall off, many of them together, forming whirls wherever the leaves are. Leaves ovate, stalked, hairy, very deeply toothed. The whole plant of a very disagreeable scent.

HEMP-NETTLE. *GALEOPSIS.*

Common Hemp-Nettle. *Galeopsis Tetrahit.*

Plate 8—*Fig.* 13.

A very juicy, hairy plant, that varies much in size, from a few inches to two feet in height, growing in dry ditches, and the borders of corn-fields. The flowers are in whirls, many together, pale purple, with a long pointed calyx. The stem is swelled below each joint. Leaves ovate, deeply serrated, tapering into footstalks. fl. June & July

O. S. Red Hemp-Nettle—Downy Hemp-Nettle—and Large Flowered Hemp-Nettle.

DEAD-NETTLE. *LAMIUM.*

White Dead-Nettle. *Lamium album.*

Plate 8—*Fig.* 14.

Flowers white. Tube of the calyx shorter than the points.

Abundant everywhere in the ditches and hedge-rows, known at once by its white or cream-colored flowers, the tubes of which are so loaded with honey that they are very sweet to the taste, and a favorite resort of the bees, though the rough, serrated leaves are distasteful to the cattle. In flower from June to September.

Red Dead-Nettle. *Lamium purpureum.*

Plate 8—*Fig.* 15.

Still more common than the last, and found in flower throughout the year. Even in February and March to be seen rearing its small, but beautifully pink and spotted flowers on every bank, pathway, meadow, and hedge-row where it can procure a gleam of sunshine, and enticing the bees at this early season when flowers are scarce; and there are few of even a later season that yield them so sweet a banquet. Its leaves are much crowded together on the top of the stem, and if it be considered a useless weed, yet hear how one of our poets describes it, and pleads in its behalf.

"A little herb of dark red hue,
I met with in my walk,
On sunny bank it verdant grew,
In yonder hazel balk.

"Not earliest of the Spring it blows,
Yet earlier few appear,
Scarce melted have rough Winter's snows,
When it adorns the year.

"I think that neither ass nor sheep,
Will crop it as it feeds;
And men will never care to reap,
But class it among weeds.

"It is a weed, then why not throw
The useless thing away,
And in its place let others grow,
More sweet, and fair, and gay?

"No, let it be; despise it not;
For with it's homely smiles,
It brightens else a barren spot,
Perchance a care beguiles."—J. R.

O. S. Henbit Dead-Nettle—Cut Leaved Dead-Nettle, and Spotted Dead-Nettle.

BETONY. *BETONICA.*

WOOD BETONY. *Betonica officinalis.*

Plate 8—*Fig.* 16.

Grows a foot or more in height, upright, with a single tuft of flowers at the top of the unbranched stem, and one pair of leaves in the middle of it. The flowers are pinkish-purple, four or five in a whirl, and three or four whirls nearly close together. Stem leaves nearly sessile, those from the root with long stalks, ovate in shape and deeply toothed; whole plant, except the calyx, hairy.

Formerly the Wood Betony was much used in medicine, and the ignorant village doctors of those days supposed that it was possessed of almost every property, and capable of curing all wounds and all diseases. Although a plant of no real value, it is still much used in some country places, and in Spain so highly esteemed that they consider it one of the highest compliments to say of a man "He has as many virtues as Betony." When the leaves are dried and pounded and taken as snuff they excite very sudden and violent sneezing.

1st July & Aug.st

WOUNDWORT. *STACHYS.*

HEDGE WOUNDWORT. *Stachys Sylvatica.*

Plate 8—*Fig.* 17.

Stem solid. Leaves long, heart-shaped, stalked.

Frequent under hedges and in moist shady places, flowering in July and August, attaining the height of two or three feet, branched upwards, with eight or ten rather closely-set whirls of flowers, six in each whirl. Corolla reddish-purple, spotted with a darker red. Leaves between ovate and heart-shaped, deeply serrated, and stalked, and, as well as the stem and calyx, very rough with hairs, and the whole plant of a strong, disagreeable smell. Root fibrous.

MARSH WOUNDWORT. *Stachys palustris.*

Plate 8—*Fig.* 18.

Leaves long, lance-shaped, sessile.

This grows chiefly on river banks, and in those open ditches which intersect marsh land, growing two or three feet high,

with the whirled spike of flowers rather narrower, leaves not so wide, nor so rough, but longer, without stalks, and clasping the stem, particularly those growing on the upper part. The root too is very different, being in our present plant composed of a number of tubers or fleshy bodies, joined together in a string.

The name, Woundwort, which this and the other species bear, shows their former use—they are not now considered of any value. Gerarde, a physician and botanist, who lived two hundred and fifty years ago, called it the "Clown's Woundwort," and that for the following very ridiculous reason. He says, "that a poor man wounded his leg with a scythe, and that I offered to heale the same for charitie, which he refused, saying 'I could not heal it so well as himselfe:' a clownish answer I confesse, without any thankes for my goodwill, whereupon I have named the plant he used Clowne's Woundwort as aforesaid.

O. S. Ambiguous Woundwort, which in character is between the two described—Downy Woundwort, the leaves of which are quite white and downy—Corn Woundwort, and Pale Annual Woundwort, a yellow flowered sort, found only in one place near Rochester.

GROUND IVY. *GLECHOMA.*

GROUND IVY. *Glechoma hederacea.*
Plate 8—*Fig.* 19.

"Gill go on the Ground," and "Runaway Jack," are two of the common country names for the Ground Ivy—and they express truly its creeping habit, for it lies close to the earth, and runs along on waste ground, in orchards, &c., sometimes with shoots two or three feet in length, bearing three flowers to each leaf all along the stem. Leaves heart or kidney-shaped, stalked, hairy, and with scolloped edges. Flowers blue, white towards the centre, and with two red or purple spots upon the under lip. The stamens are joined together two and two, so that the anthers of each pair form a cross.

It is of a bitter taste, and is often boiled or steeped in ale, to which it gives a pleasant aromatic flavor, thus it is very often called Alehoof or Alehave. Flowers all the summer.

PLATE IX

WHITE HOREHOUND. *MARRUBIUM.*

COMMON HOREHOUND. *Marrubium vulgare.*

Plate 8—*Fig.* 20.

An upright growing plant, frequent in dry situations, especially in the chalky parts of the South of England, flowering in the latter part of Summer and Autumn. The leaves are roundish, wrinkled, toothed, and stalked. Calyx with ten hooked teeth. Corolla white. Stamens very short, and the whole plant very white and downy. Horehound Tea is a well-known remedy for coughs, and Candied Horehound is a still more favorite preparation.

THYME. *THYMUS.*

COMMON THYME. *Thymus serpyllum.*

Plate 9—*Fig.* 1.

Thyme is one of the most fragrant plants that grow, and also as abundant. There are few of us who do not know "many a bank where the wild Thyme blows," where it spreads its little woody stems, and puts out its little ovate leaves, and rears up its heads of little pink flowers, alluring by their scent a thousand delicate insects, robbed by every vigilant bee, and yet still so sweet. It was a happy thought of the ladies of former times to represent activity by a bee hovering over a sprig of Thyme, and thus to recommend to their favored knight the union of the active and the sweet. In our country the Thyme grows equally well on the overhanging cliff and the sunny bank, the lofty mountain side and the low and quiet thicket:—

> "O'er fringed heaths, wide lawns, and mountain steeps,
> With silent step the fragrant Thyma creeps."

Not in this country alone, but equally throughout Europe, the slopes of the Alps and the Appenines, the fertile vales of Italy and Sicily, and the barren mountain-sides of Greece and Turkey are clothed with this sweet herb, and in the classic regions of Thessaly and Athens it was considered indicative of grace and elegance. Thus the ancient poets vie with the moderns in its praise. Virgil talks of "the attic bees of the flowery Hymettus"—and in another place says

> "No more, my goats, shall I behold you climb
> The steepy cliffs, or crop the flowering Thyme."
>
> DRYDEN'S VIRGIL.

SELF-HEAL. *PRUNELLA.*

Common Self-Heal. *Prunella vulgaris.*

Plate 9—*Fig.* 2.

Damp meadows, and other places, similar to those where the Bugle is found, here it grows a foot or more high, and upright, but if found in a sunny situation it is very much smaller, and more drooping. Its flowers are purple-reddish or white, collected in a very close spike of whirls at the top of the stem, with a pair of leaves alone under it. The leaves are stalked, oblong, with a few hairs upon them. The lower lip of the corolla is jagged—the upper slightly notched. It was formerly considered useful in curing wounds, but it is not now employed. *H. July to Augt*

RED RATTLE. *PEDICULARIS.*

Tall Red Rattle. *Pedicularis palustris.*

Plate 9—*Fig.* 3.

Stem single, erect, branched near the top. Calyx hairy.

This, as well as the next species which is much like it, is an elegant plant, though humble in growth, scarcely reaching ten inches high, even in the shady and damp parts of woods, where it grows the largest. Its flowers are of a fine dark pink, stalked, and growing from the axils of the leaves. Its calyx not toothed or lipped, as in all the rest of the class, but puffed out, and deeply, but not regularly, scolloped on the edge. The leaves are alternate, extremely handsome, being of a beautiful fresh green color, and cleft down to the centre rib, each of these clefts toothed on both edges. The capsule is ovate, sharp-pointed, and with a long style projecting from it. The stem is branched near the top, but not from the root. *H. June & July*

Marsh Red Rattle. *Pedicularis sylvatica.*

Plate 9—*Fig.* 4.

Stems two or three from the root, not branched.

This does not grow so tall as the last, and although there are generally two or more stems rise from the ground to each root, yet they are very dwarf, by no means upright, and

mostly quite hid by the short grass of the heaths and thickets among which it is found. The greater part of the leaves, too, are not cleft into so many divisions, and the lower ones are very often not divided at all. They both flower at the same time, that is about June and July.

TOAD FLAX. *LINARIA.*

Ivy-Leaved Toad Flax. *Linaria Cymbalaria.*

Plate 9—*Fig.* 5.

Stem trailing. Leaves alternate. Flowers purple.

Perhaps not a true native of Britain, but so easy of culture and prolific of seed, so satisfied even with the nakedness of a wall, and remaining uninjured in every change of atmosphere, so often grown in pots, and made to spread itself over shell and grotto work — that this little fast-growing creeper has found its way abroad, and may be seen trailing and blossoming the whole summer long, and almost the winter too, over walls and thatch, and ruined buildings. Its stems are numerous, very long, and thread-like. Its leaves alternate, stalked, and five-lobed, like those of the Ivy, but rather rounder. A flower is borne with every leaf, and is sweetly pretty. The upper lip is two-cleft and purple—the lower lip three-cleft, spurred, with two horns upon it, which swell up so as to close the mouth of the flower. This swelling is yellow, the rest of the lip light blue or lavender color. The under side of the leaves and stems are purple. fl fr^m May to Nov^r

Yellow Toad Flax. *Linaria vulgaris.*

Plate 9—*Fig.* 6.

Stem upright. Leaves scattered. Flowers yellow.

A fine, showy, upright, tall, smooth plant, with large, bright yellow, crowded flowers, opening in August, and decorating the banks of corn fields and hedge-rows. The leaves are linear and scattered. The flowers lipped and personate, that is, closed at the mouth, the inner part of the flower orange. Calyx small, smooth, and shorter than the spur.

fl^r June July Withering

O. S. Round-Leaved Toad Flax—Sharp-pointed Toad Flax—Creeping Pale blue Toad Flax, and Least Toad Flax. The two first not uncommon in English corn fields.

SNAP-DRAGON. *ANTIRRHINUM.*

GREAT SNAP-DRAGON. *Antirrhinum majus.*

Plate 9—*Fig.* 7.

One of the most showy plants, especially when grown in the borders of gardens, as it frequently is—putting on every tint, from the darkest crimson to the lightest pink, or even sometimes white. It grows very frequently on the old castles, the walls, and around the chalky cliffs and rocks of the South of England. It is much branched, a foot or more high, flowering in July and August, and bearing round large capsules, containing thousands of seeds, and when ripe letting them out by three pores or holes at the top of it. The flowers are sometimes two inches long, and are crowded together in close spikes. Leaves lanceolate.

O. S. Lesser Snap-Dragon, not an uncommon plant in corn fields.

FIGWORT. *SCROPHULARIA.*

WATER FIGWORT. *Scrophularia aquatica.*

Plate 9—*Fig.* 8.

On the sides of ditches and river-banks, two or three feet high, blossoming in July and August. The flowers are ringent, their tube swelled out, so as to be nearly globular, and is half enclosed by a green, smooth, blunt-pointed calyx. Upper lip of the corolla chocolate-colored, with a scale upon it; under lip of three parts, bent back, and pink-edged. Flowers in little opposite distant branches, with a simple bract beneath them. Leaves oval, toothed, stalked, opposite, often winged with two very small leaves on the leaf-stalk. Stem square with a wing at each edge. Capsule round, two-valved, with many seeds. Root fibrous. The flowers are like little helmets, and the capsules like little bullets.

O. S. Knotted Figwort, like the above but with a knotted root—Balm-Leaved Figwort, a very rare plant—and Yellow Figwort, an early and beautiful Spring flower, now and then found wild.

FOXGLOVE. *DIGITALIS.*

PURPLE FOXGLOVE. *Digitalis purpurea.*

Plate 9—*Fig.* 9.

One of the tallest, most richly colored, and noblest plants that our country produces. There are only two or three of

the Eastern Counties of England where it is not common. In the West and the North it is particularly abundant, rendering in the summer and autumn every thicket gay, raising aloft in every hedge and bank its tall spire loaded with numerous magnificent drooping bell-shaped and beautifully-spotted purple flowers, (sometimes white.) Its leaves are large, ovate, serrated, and hairy. The calyx a little hairy ; the capsule quite smooth and pear-shaped, with a very long style at the end of it. It is full of minute seeds. The flowers are each nearly two inches long, and turn down all on the same side of the stalk, a small, entire, hairy bract attends each of them. The flowers are of that shape and size that they will go over a finger, this is the origin of the Latin name, which means a Thimble. They have also a similar name in England, France, Holland, and Germany. In Suffolk and Essex they are called *Blobs*, because the children pull off a flower, and with the fingers of one hand close up the mouth, and giving the other end a slap, it bursts with a noise like the word blob.

The plant is poisonous, but when used properly a valuable medicine, the properties of which were first discovered by a noted botanist, Dr. Withering. *fl. July & Aug^st*

VERVAIN. *VERBENA.*

Common Vervain. *Verbena officinalis.*

Plate 9—*Fig.* 10.

The Vervain has nothing in its appearance to recommend it, it is a branched, upright, rigid, dark-green plant with small purple, almost regular, flowers, growing all along the upper part of all the branches. Leaves opposite, hairy, very deeply cut. Seed vessel oval, small, nearly covered with the calyx. It flowers in July and August, and is found in dry, chalky or gravelly places, common in England, but rare in Scotland and Ireland. It is a very different plant from that delightful lemon-smelling woody little shrub which is frequent in the greenhouses, and called Vervain or Verbena.

In former times our plant was celebrated as having a thousand properties, and used in all important ceremonies. The Druids regarded it with the utmost reverence, and the gather-

ing of it was attended with the greatest pomp and ceremony. The Romans crowned their heralds with it, when declaring war or making peace. It was dedicated among the ancients to Venus, who wore a crown of Myrtle interwoven with Vervain, and to this day the Germans give a hat of Vervain to the new-married bride, as putting her under the protection of that Goddess; also in the Northern Provinces of France, as well as the Southern parts of England, it is considered by the ignorant and superstitious to have great power in keeping off diseases from themselves and danger from their cattle, and what is of more importance, they think that a sprig of the plant given to a lover will rivet his heart upon the fair giver.

"There are fairer flowers that bloom on the lea,
And give out their fragrant scent to the gale;
But the Vervain, with charmed leaf, shall be,
The plant of our choosing, though scentless and pale.

"For, wrapped in the veil of thy lowly flower,
They say that a powerful influence dwells,
And that, duly culled in the star-bright hour.
Thou bindest the heart by thy powerful spells."—S. WARING.

BARTSIA. *BARTSIA.*

RED BARTSIA. *Bartsia Odontites.*

Plate 9—*Fig.* 11.

A very pretty, branched, upright plant, often found in corn-fields, and on the chalky hillocks and neglected quarries of the South of England; it grows a foot or more high, and flowers, like most of this class, in the latter part of Summer. The stems are square. Leaves lance-shaped, serrated, and in pairs. Branches opposite, loaded with flowers in terminal spikes. Flowers turning all the same way, ringent, purple, small, with large, yellow, curious stamens. Calyx four-cleft.

O. S. Yellow Viscid Bartsia and Alpine Bartsia, both of them rare.

EYE-BRIGHT. *EUPHRASIA.*

COMMON EYE-BRIGHT. *Euphrasia officinalis.*

Plate 9—*Fig.* 12.

A humble growing plant, abundant equally on the Lowland heath and the Highland pasture, varying much in size from a single flower and a simple stem scarcely an inch in height, to a branched herb of many inches. The flowers are sessile,

crowded towards the upper part of the stem, two-lipped, the upper lip notched, the lower three-lobed, each lobe notched at the end, all of the most delicate white, striped with purple. The leaves are opposite, small, ovate, hairy, with a few large notches on their edges. Anthers with two curious projections like spurs on the lower part of them, which vary much in length and size. It was used formerly to make an ointment with, which was applied to cure dimness of sight, thus the plant got the name of Eye-bright. *fl. fr^m July to Sept^r*

YELLOW RATTLE. *RHINANTHUS.*

COMMON YELLOW RATTLE. *Rhinanthus Crista-Galli.*

Plate 9—*Fig.* 13.

There are very few gaping flowered plants which are of a yellow color, but this is one of them, and by far the most common, it may be found in almost every meadow, flowering just before the hay is cut—and also in many a pasture ground, standing up and rattling its round capsules of seeds, at a later period, while all the grass around has been cropped by the cows, who refuse to eat this herb. The stem is square. The leaves opposite, tapering towards the point, and deeply serrated. Flowers towards the upper part of the stem, sessile, one in the bosom of each leaf—of a yellow color, with two bright blue spots on the upper lip. Calyx very much swelled, four-toothed, beautifully veined, and very light green. Capsule round, two-valved, many-seeded, with the seeds lapping over each other at first, but when ripe loose in the capsule. Whole plant quite smooth, a foot or more high, upright, not much branched. *fl in June*

O. S. Larger Yellow Rattle, found in corn-fields in the North of England.

NOTE.—The swelled calyx of the Yellow Rattles, form very beautiful vegetable skeletons, and so do also the calyces of the Henbane, of all the Campanula tribe, of the Winter Cherry, and the Nicandra. The capsules of the Poppy. The leaves of the Box, Apple, Poplar, Ivy, Holly, Magnolia, Passion Flower, Tulip Tree, &c. &c. They may be made readily thus:—Put a quantity of leaves, &c. altogether in a pan or tub, and cover them with water, and in this state let them remain without changing the water for six weeks or more in the summer, exposed to the sun and weather, at the end of that time they will be quite finished, and will only require to be washed clean and bleached, which last process is very simple:—Place the prepared leaves in a close box, along with a little brimstone burning in a pan or ladle, and in about an hour they will be very white. You will not succeed if the water is often changed, nor unless many are done together: indeed the more the better.

COW-WHEAT. *MELAMPYRUM.*

Common Yellow Cow-Wheat. *Melampyrum pratense.*

Plate 9—*Fig.* 14.

In thickets, copses, and woods, growing a foot high, slender in habit, with opposite leaves, spreading branches, quite smooth all over, and turning quite black when drying. Leaves opposite, long-lance shaped, entire. The bracts or the leaves which grow among the flowers, have two or three very deep teeth on each edge, near the base of them, and are tinged with red. The calyx is short. The corolla four times as long, and yellow. The seeds are black, two in each capsule, similar in shape to the grains of wheat, whence the Latin name, which means Black Wheat. *Fl. July & Aug^t*

O. S. Crested Cow-Wheat—Purple Cow-Wheat—and Small Flowered Yellow Cow-Wheat.

BROOM RAPE. *OROBANCHE.*

Great Broom Rape. *Orobanche major.*

Plate 9—*Fig.* 15.

Did you ever in passing along a common where the furze grows, or over a gravelly, heathy spot, see growing up among the bushes a curious brown plant, with a large close spike of gaping flowers, each with a little brown bract under it, with a thick fleshy, brittle stem, knobbed at the ground, and bearing upon it all the way up tapering scales, but no leaves, nor branches? If you have found this it is one of the Broom Rapes, if not it is well worth the search, as an instance of a herb which has nothing green about it, and also of a parasitic plant or a vegetable blood-sucker, one which is unable to draw from the earth or air its own sustenance, and therefore attaches its roots to some other plant, and draws from that the nourishment it needs. Its seeds too, which are borne in tens of thousands, will not grow unless they touch the root of furze or heath, or some other plant, but will remain uninjured in the ground for years, until they gain such a protection and support, when immediately they run their fibres into it, and in a month grow a foot or more high, and put forth their curious flowers. *Fl. June & July*

O. S. Clove-Scented Broom Rape—Tall Broom Rape—Small Broom Rape—Red Broom Rape—Purple Broom Rape—and Branched Broom Rape, some of them very rare.

CLASS 15.—TETRADYNAMIA.

(Containing Plants with four long and two short Stamens.)
Flowers of four Petals, opposite each other.

This class is the same as the natural order Cruciferæ, or the Cruciform plants, so called because all belonging to it have their four petals arranged in a cross: they also bear their seeds in a short or long pod-shaped seed-vessel. The properties of the whole are very similar, they assist digestion greatly, and purify the blood. There have been discovered about nine hundred different species belonging to the Cruciform tribe, which for the most part grow in the temperate regions of the earth. England produces about seventy of these species, some of which are well known, either as eatable vegetables or as garden flowers, among them are the Sea Kale, the Mustard and the Cress, the Cabbage, the Turnip, the Radish, the Horse-Radish, the Woad, (which was the plant used by the Ancient Britons in dyeing their skins blue,) the Water-Cress, the Candy-Tuft, the Wallflower, the Stock, the Gold of Pleasure, and the Rocket, or Dame's-Violet, which is scentless all day, but fragrant in the evening.

Order 1. *SILICULOSA.*

Seed-vessel a short pod or pouch.

Wart-Cress *(Coronopus.)* Pouch two-lobed, without valves or wings; seeds two.

Shepherd's Purse *(Capsella.)* Pouch heart-shaped, flat, many-seeded.

Scurvy-Grass *(Cochlearia.)* Pouch roundish, swelled, many-seeded.

Whitlow-Grass *(Draba.)* Pouch oval, flat, many-seeded.

Order 2. *SILIQUOSA.*

Seed-vessel a long narrow pod.

Bitter-Cress *(Cardamine.)* Pod long, thin; valves flat, without veins.

WINTER-CRESS (*Barbarea.*) Pod two-edged; valves veined or keeled.

CRESS (*Nasturtium.*) Pod round, sides hollow, neither valved nor keeled.

HEDGE-MUSTARD (*Sisymbrium.*) Pod rounded; calyx spreading.

TREACLE-MUSTARD (*Erysimum.*) Pod four-sided; calyx erect.

WALL-FLOWER (*Cheiranthus.*) Pod flattened or two-edged.

CABBAGE (*Brassica.*) Pod two-valved, rounded, with a long beak; calyx erect.

MUSTARD (*Sinapis.*) Pod two-valved, rounded; calyx spreading.

RADISH (*Rhaphanus.*) Pod without valves; calyx erect.

WART-CRESS. *CORONOPUS.*

COMMON WART-CRESS. SWINE'S CRESS. *C. Ruellii.*
Plate 9—*Fig.* 16.

In dry places, such as in waste ground, brick-fields, chalky road-sides, &c., bushy, and spreading about, not growing, however, above a few inches in height. The flowers are very small, white, and in thick bunches from the base of the stalk of the leaf. The pouch which succeeds is large in proportion to the flower, beautifully crested, and contains two seeds. Leaves much cleft into narrow stripes. The whole plant is smooth, and tastes warm, like the common Garden Cress, thus it is often called Pepper-Wort.

O. S. Smaller Wart-Cress, which is not uncommon in the South of England.

SHEPHERD'S PURSE. *CAPSELLA.*

COMMON SHEPHERD'S PURSE. *Capsella Bursa-Pastoris.*
Plate 9—*Fig.* 17.

By the sides of roads and on waste grounds, everywhere in flower from the early Spring till late in Summer. It is neither handsome nor useful, its flowers are extremely small, occupying all the upper part of the stem and branches, opening first in the lower part, and gradually proceeding upwards, until

very soon flowers may be seen coming out at the top of the stem, and the heart-shaped seed vessels opening and scattering the ripe seeds below. The leaves are alternate, those on the stem sessile, with two long projections, where they join the stem. The root leaves winged to their base, and growing round in a circle, close to the ground. Their shape is very various, sometimes not at all divided, at other times deeply cleft, and generally the drier the place where the plants grow, the more deeply divided they are.

SCURVY-GRASS. *COCHLEARIA.*

HORSE-RADISH. *Cochlearia Armoracia.*

Plate 9—*Fig.* 18.

The Horse-Radish will grow even from a small bit of the root being put or left in the ground, and is cultivated in almost every garden on account of its pungent flavor, and therefore whether a native plant or not, it is now found frequently on dunghills, on river-banks, and about the fields, being, when in flower, which is in July and August, of the height of three or four feet, with very numerous branches of small white flowers, which produce oblong, roundish, many-seeded pods. The root-leaves are often two feet long, coarse in look, of a dark green, much veined, serrated, and upon long stalks, while the other leaves taper gradually down the stem. Many acres of the Horse-Radish are grown in every direction around London, for the markets.

O S, Common Scurvy-Grass, found often in muddy places by the sea shore—Greenland Scurvy-Grass—English Scurvy-Grass— and Danish Scurvy-Grass, all of them rare.

WHITLOW-GRASS. *DRABA.*

COMMON WHITLOW-GRASS. *Draba verna.*

Plate 9—*Fig.* 19.

One of the smallest and one of the earliest of our plants, clothing the tops of the walls, and putting out its milk-white flowers with the first return of Spring—even in February it is expanded and gay. The leaves grow in tufts around the root, spreading out like a star, each leaf lance-shaped, and a little toothed. The flower stems are an inch or two in height, and without leaves. Petals deeply cleft, the seed vessels oval,

March to April Withering

throwing off the two sides of them, and leaving on the stalk only the thin white membrane which divides the seed vessel.

" I love thee pretty nursling,
Of vernal sun and rain,
For thou are Flora's firstling,
And leadest in her train."

O. S. Yellow Alpine Whitlow-Grass—Rock Whitlow Grass—Twisted-Podded Whitlow-Grass—and Speedwell-Leaved Whitlow-Grass, all of them rare, and flowering very early.

BITTER-CRESS. *CARDAMINE.*

COMMON BITTER-CRESS. *Cardamine pratensis.*

Plate 9—*Fig.* 20.

From the early season of the year in which this plant blossoms it is often called the Cuckoo Flower, while from the purity and delicate white color of its flowers, it has most commonly the name of Lady's Frock; all country children know it by one or other of these names, and after Winter has passed and the springing grass, the budding trees, and the opening flowers entice them from the fireside, these Lady's Frocks offer themselves already decked in beauty, and with the early yellow Pilewort, the red Nettle, and the blue Veronica, tend to form a charming rustic nosegay—of simple flowers indeed, but not less perfect nor less brilliant than those of a later period. Our present plant grows upright, eight or ten inches high, tufted with flowers, or loaded with long round seed-vessels, and bearing at intervals pinnate leaves, of narrow sections on the upper part, but wider below, so that at and round the root, each small leaflet is shaped like an Ivy leaf.

O. S. Large Flowered Bitter-Cress—Narrow-Leaved Bitter-Cress—Hairy Bitter-Cress—and Daisy-Leaved Bitter-Cress.

WINTER-CRESS. *BARBAREA.*

BITTER WINTER-CRESS. YELLOW ROCKET. *Barbarea vulgaris.*

Plate 10—*Fig.* 1.

An upright, slightly branched, smooth herb, growing from one to two feet high, on the banks of streams, and in hedges, flowering in the middle of the Summer. The flowers are crowded on the top of the stems, of a yellow color, soon changing into pointed seed-vessels. Stem leafy, angular, and furrowed. Upper leaves ovate, toothed; lower leaves lyrate, all sessile.

PLATE X

CRESS. *NASTURTIUM.*

COMMON WATER-CRESS. *Nasturtium officinalis.*

Plate 10—*Fig.* 2.

This is a well-known and highly useful salad, cultivated around London abundantly for the use of the inhabitants, besides vast quantities which the farmer's men bring up every market day, gathered in the shallow brooks, and rivulets, where it naturally flourishes. As soon as the frost has abated, and the water flows along the little ditches and watercourses, then the pinnate leaves of the Water-Cress grow quickly, its crooked stem soon rises and puts forth its pretty white flowers, to be succeeded by round swelled pods, which scatter their seeds and die away. In the Autumn fresh leaves arise and grow vigorously, often continuing alive and flourishing throughout the winter. *fl. June & July*

O. S. Creeping Cress—Marsh Cress—and Amphibious Cress.

HEDGE-MUSTARD. *SISYMBRIUM.*

COMMON HEDGE-MUSTARD. *Sisymbrium officinale.*

Plate 10—*Fig.* 3.

A very rigid, upright plant, with flowers of a yellow color, in tufts at the top of long thin stems, at once known by the seed-vessels, which are long, not lapping over each other, but lying close to the stem itself. Wherever a branch issues from the stem there is also a lobed or lyrate leaf, and in the radical leaves the lobe at the end is round and much larger than the rest, all of them hairy. It grows two feet high, on all waste ground, and continues to flower throughout the Summer.

O. S. Broad Hedge-Mustard—Fine-Leaved Hedge-Mustard—Common Thale-Cress; neither of these are by any means rare, especially about London.

TREACLE-MUSTARD. *ERYSIMUM.*

GARLIC TREACLE-MUSTARD. *Erysimum Alliaria.*

Plate 10—*Fig.* 4.

A light green, thin leaved, white flowered, and somewhat pretty plant, common in hedges, and flowering in April, May, and June. It grows upright, sometimes only a few inches, at others two feet or more high. The leaves are heart-shaped, toothed, smooth, and stalked. Seed-vessels not growing

straight from the stalk, but more upwards. The whole plant smells strongly something like garlic.

O. S. Wormseed Treacle-Mustard and Hare's-ear Treacle-Mustard.

WALLFLOWER. *CHEIRANTHUS.*

Common Wallflower. *Cheiranthus Cheiri.*

Plate 10—*Fig.* 5.

The cultivated Wallflower differs a little from its usual wild state, but merely in having darker flowers, and growing larger. The leaves are lance-shaped, sharp-pointed, without notches, with a few closely-pressed hairs. The pods are long and thin. The lobes of the stigma spread out, the stem shrubby, and of many branches. It is in flower throughout the greater part of the year, and loves to cling on the top of old walls. Hence it has been truly said

> " The weed is green, when grey the wall,
> And blossoms rise when turrets fall."

And the circumstance has not been lost sight of by the poets, many of whom have cherished its memory, and sung its praises. Miss Twamley beautifully says, " The Wallflower is properly considered the emblem of love in adversity, for it never appears on the stately pile in its days of pride and grandeur, but when the buttresses fall, and the walls totter; then the flower brings its beauty and fragrance to gladden the solitary place, and by its cheerful smiles to rob the sad scene of half its gloom."

> " The Wallflower, the Wallflower!
> How beautiful it blooms!
> It gleams above the ruined tower,
> Like sunlight over tombs.
> It sheds a halo of repose,
> Around the wrecks of time,
> To beauty give the flaunting Rose,
> The Wallflower is sublime.
>
> " Flower of the solitary place,
> Grey ruin's golden crown,
> That lendest melancholy grace
> To haunts of old renown;
> That mantlest o'er the battlement,
> By strife or storm decay'd,
> And fillest up each envious rent,
> Time's canker-tooth hath made.

"Sweet Wallflower, sweet Wallflower,
Thou conjurest up to me,
Full many a soft and sunny hour,
Of boyhood's thoughtless glee.
When joy from out the Daisies grew,
In woodland pastures green,
And Summer skies were far more blue,
Than since they e'er have been.

"Rich is the Pink—the Lily gay,
The Rose is Summer's guest,
Bland are thy charms when these decay,
Of flowers first, last, and best,
There may be gaudier in the bower,
And statelier on the tree,
But Wallflower, loved Wallflower,
Thou art the flower for me."—Mr. Moir.

CABBAGE. TURNIP. *BRASSICA.*

Rape Seed. *Brassica Napus.*

Plate 10—*Fig.* 6.

Root tapering, fibrous. Leaves all smooth.

The various sorts of Cabbage are known from each other chiefly from their leaves; our present plant is found often in corn-fields, growing one or two feet high. Its lower leaves deeply and irregularly toothed; upper leaves of a long heart-shape, entire, clasping the stem, which is branched. It is often cultivated for the sake of the seeds, from which a large quantity of a valuable oil is pressed, known by the name of rape oil, and applied to a variety of purposes, while what remains after the oil has been expressed, affords a useful and fattening food for cattle.

Common Turnip. *Brassica Rapa.*

Plate 10—*Fig.* 7.

Root round, fleshy. Leaves rough.

The common and well-known vegetable the Turnip is but one species of the Cabbage, and distinguished from the others by the root, and the roughness of the lower leaves. It is often found growing in the borders of fields and varies very much in size and appearance.

Sea Cabbage. *Brassica oleracea.*

Plate 10—*Fig.* 8.

Root woody. All the leaves smooth, waved, and lobed.

In a truly wild state this is somewhat rare, being found only

in a few places near the sea, as its name implies, but in the garden it is common enough, for our present species is

> "That herb which o'er the whole terrestial globe
> Doth flourish, and in great abundance yields
> To low plebeian, and the haughty king,
> In Summer Cabbage, and Green Sprouts in Spring."

Many other culinary vegetables which go by different names are but varieties of the present species, among these are the Cauliflower and the Brocoli, the Savoy, the Borecole, the Greencole, the Brussels Sprout, the Red Cabbage, the Scotch Kale, and last and largest the Cow Cabbage. *H. May & June*

O. S. Isle of Man Cabbage and Wild Cabbage, the last not very rare.

MUSTARD. *SINAPIS.*

CHARLOCK. WILD MUSTARD. *Sinapis arvensis.*

Plate 10—*Fig.* 9.

Pods with many angles, knotted, and with a two-edged beak.

Very common, not only on banks and in meadows, but in corn fields, often so as to prove a troublesome weed. It grows one or two feet high, is branched upwards, bears yellow flowers, tapering knotted pods, with a two-edged beak to them. Leaves all deeply indented and toothed. Seeds brown. Flowers in May and June.

WHITE MUSTARD. *Sinapis alba.*

Plate 10—*Fig.* 10.

Pods rough, with a long sword-shaped beak.

This is common in waste places, and is known from the last by the color of the seeds, which are yellow, the shape of the seed-vessel, and the leaves, those of the Wild Mustard being more deeply cut, and the whole plant more hairy. This plant is sown in the Spring, along with Cress, for a young salad, and so rapidly do the seeds vegetate that they will begin to shoot in a few hours, and in two or three days a salad may be cut, if the growth of them be assisted by the heat of a room, &c. Thus it is very common to cover over a glass bottle with flannel, to wet this, and then to rub Mustard or Cress seed upon it, where it will stick and soon begin to grow, and if placed in a saucer of water it will supply itself with moisture sufficient to nourish it.

COMMON MUSTARD. *Sinapis nigra.*

Plate 10—*Fig.* 11.

Pods four-cornered, small, with a short beak.

In waste places and under hedges—also cultivated in great abundance in many places for the sake of the seeds, which are ground up, and used at the table. This plant differs in many respects from both the former. Its pods are much smaller, shorter, quite smooth, and with a short style or beak, and pressed much closer to the stem. The lower leaves large and rough—the upper narrow, long, and smooth. Seeds black.

O. S. Hoary Mustard—Sand Mustard—and Fine-Leaved Mustard, the last common in waste places, around towns—even in the midst of the smoky parts of London.

RADISH. *RAPHANUS.*

WILD RADISH. *Raphanus Raphanistrum.*

Plate 10—*Fig.* 12.

Pods round, jointed, smooth, of one cell only. Stem rough with transparent hairs. Leaves all stalked, lower ones lyrate, upper ones lance-shaped, all toothed. Flowers yellow, veined. This is most like the Charlock, or Wild Mustard, and is often called the Jointed Charlock—it differs from it in having the calyx upright, instead of being spread out, and in the pod, which breaks off into pieces when the seeds are ripe. *fl. in summer*

O. S. Sea Radish, a very rare plant, found only in one or two places, and perhaps not distinct from the one described.

CLASS 16.—MONODELPHIA.

(Containing Plants whose Stamens are collected together in one bundle.)

Plants of the most elegant structure, vivid colors, and useful properties, are found among those which are classed here, as the graceful and grateful Tamarind, the radiant Passion Flower, the numerous tribes of the Geraniums and Mallows, the valuable Cotton Tree, the Tea Tree, and that largest production of the whole vegetable kingdom, the Baobab, or Monkey Bread, of Africa. This class, however,

is not an extensive one—of British plants there are but twenty-two, and of these but few are rare. The whole may be eaten without danger, for no plant belongs to Monodelphia of poisonous qualities—on the contrary, many of them are valuable in medicine on account of their soothing and softening properties.

Order 5. *PENTANDRIA. Five Stamens.*

STORK'S-BILL *(Erodium.)* Style one; calyx of five leaves; corolla of five petals; awn of the seed hairy inside.

Order 2. *DECANDRIA. Ten Stamens.*

CRANE'S-BILL *(Geranium.)* Style one; calyx of five leaves; corolla of five petals; awn without hairs.

NOTE.—The joining together of the filaments in these two genera is hardly to be seen, as it is only at the base of them where they are joined. Thus one of them may at first be considered as of the fifth and the other of the tenth class.

Order 3. *POLYANDRIA. Many Stamens.*

MALLOW *(Malva.)* Styles many; calyx double, exterior of three leaves.

STORK'S-BILL. *ERODIUM.*

HEMLOCK STORK'S-BILL. *Erodium cicutarium.*

Plate 10—*Fig.* 13.

On waste grounds and heaths, spreading all its leaves and flower stalks close to the ground, though creeping along for several inches on every side. The flowers are of the most delicate pink color, several of them upon the same stem. Leaves hairy, pinnate, with the leaflets alternate, sessile, cleft, and irregularly toothed. It is in flower during the Summer months.

O. S. Musky Stork's-bill—and Sea-side Stork's-bill.

CRANE'S-BILL. *GERANIUM.*

HERB ROBERT. *Geranium Robertianum.*

Plate 10—*Fig.* 14.

Leaves triangular, twice compound. Calyx hairy.

One of the most common of English Geraniums—also, one of the most elegant, it trails over the hedges, becoming a

much-branched plant, having hairy stems, and opposite leaves with bracts at the base of each, as well as upon the flower stalks, which rise from the axils of the flowers. The flowers are two together, enclosed each in a hairy calyx. Petals pink, and beautifully veined. The plant has a disagreeable smell, is very brittle, and tinged all over with a fine red.

The wonderful manner in which all of this tribe discharge their seeds is well worth the most attentive observation. The seeds are five to each flower, set round in a circle, and each lying in a cup-shaped vessel, with a long elastic stalk to it. These stalks continue to grow longer and longer, and more and more elastic, while the seed gets riper and looser in the cup, until at length the elastic stalks becoming separated from the centre column to which they are fixed at the top, suddenly fly out, and curling up at the same time, the seed is jerked to the distance of many inches from the parent. In the Plate the seed-vessel is seen after the seed is dispersed, and in the Plate of the next species it is seen when ripening. In the genus Erodium, or Stork's-bill, the awns or stalks become twisted round at the same time that they fly out, and this is almost the only difference between that genus and Geranium, except indeed that the awns of Erodium are bearded on the inner side. The number of stamens is not to be depended upon.

fl. from the beginning of May to the end of Oct.

SOFT DOVE'S-FOOT CRANE'S-BILL. *Geranium molle.*

Plate 10—*Fig.* 15.

Leaves alternate, rounded, downy. Petals notched.

A trailing plant of but a few inches in extent, laying its many stems close to the ground, upon dry banks and road-sides. It may be known at once by its rounded, cleft, toothed, alternate, downy, and stalked leaves, by its flowering stalks, which grow opposite to each leaf, and particularly by its petals, which are cleft at the end. Capsule wrinkled. Seeds smooth. Its flowers are small, pink, two on a stalk, with ten stamens, coming out in June and July, while in a month or two afterwards the seeds will have become ripe, and the whole plant died away—it is but an annual, as are also all the Geraniums here described.

SMALL FLOWERED CRANE'S-BILL, *Geranium pusillum.*

Plate 10—*Fig.* 16.

Leaves alternate, kidney-shaped, deeply cleft. Petals notched.

Often found in dry, gravelly places, but not so common as either the last, or the next—it spreads over the ground in the same manner, with trailing stems, and flowers at the same season—it differs from the Geranium molle in having its leaves much more deeply cut, and the lobes of them distant from its other. Its capsules not wrinkled, and its seeds smooth. The flowers have but five perfect stamens.

JAGGED-LEAVED CRANE'S-BILL. *Geranium dissectum.*

Plate 10—*Fig.* 17.

Leaves cut into narrow strips. Seeds dotted.

The only common English Geranium like this is the *Geranium pusillum*, from which it is known by the smooth seeds, more deeply-divided leaves, and shorter flower stalks. This species is extremely abundant on dry banks, trailing on the ground, and mostly with its leaves and stems tinged with a deep red color, very much more so than in the two last described species. Flowers throughout the summer.

O. S. Long-stalked Crane's-bill, a good deal like the last, and not very rare—Round-leaved Crane's-bill, which is similar in appearance to Geranium molæ—Mountain Crane's-bill—Blue Meadow Crane's-bill—Wood Crane's-bill—Dusky Crane's-bill—Blood Red Crane's-bill, all handsome perennial plants, occasionally found in woods and thickets—and Shining Crane's-bill, a pretty annual, in some places common.

MALLOW. *MALVA.*

COMMON MALLOW. *Malva sylvestris.*

Plate 10—*Fig.* 18.

Leaves seven-lobed, rather sharp. Stem erect.

A large, straggling plant, of the height of two or three feet, that grows upon rubbish heaps, and by the sides of the highways, producing its flowers in June and July. Its leaves are divided into seven, rather sharp, lobes. Its flowers three or four together, of five, large, narrow, heart-shaped, spreading petals, pink colored, with darker veins, and enclosed in a double calyx; the outer one of three leaves. Whole plant hairy and rough to the touch. Seeds several, set round in a circle—plucked and eaten by children under the name of Cheeses.

DWARF MALLOW. *Malva rotundifolia.*
Plate 10—*Fig.* 19.

Leaves five-lobed, rounded. Stem prostrate.

The smaller, round-leaved, or dwarf Mallow grows on road-sides, under walls, and such places, lying on the ground, and readily known by its much smaller size, its pale flowers, its roundish leaves of five blunt lobes, and its drooping fruit stalks.

MUSK MALLOW. *Malva Moschata.*
Plate 10—*Fig.* 20.

Leaves five-lobed, lobes again cleft. Outer calyx narrow.

This is a most beautiful plant, quite upright in growth, and with very large rose-colored flowers, and a bunch of red stamens within them. The root leaves are of five or seven broad lobes. The stem leaves of five very deeply-divided lobes. The whole plant hairy, and when drawn through the hand leaving a faint smell of musk. It loves to grow on deep loomy or clayey places, but not where the soil is wet. Flowers in July and August.

CLASS 17.—DIADELPHIA.

(*Containing Plants with Stamens in two bundles.*)

Flowers pea-shaped. Fruit a pod.

This is another natural and highly-important class, very nearly the same as the order Leguminosæ, the plants of it having all pod-shaped seed vessels, and pea-shaped flowers. Many very beautiful British plants are found to have this character, most of which are so common as to be well known—as the Furze, the Broom, the Tare, and the Clover, besides these, and others described, we have the Milk-Vetch, the Horse-shoe-Vetch, the Saint-Foin, and the Lucerne.

Order 1. *HEXANDRIA. Six Stamens.*

FUMITORY (*Fumaria.*) Calyx two-leaved; petals four; pod round, one-seeded.

Order 2. *OCTANDRIA. Eight Stamens.*

MILK-WORT (*Polygala.*) Calyx five-leaved, two of them wing-like.

Order 3. *DECANDRIA. Ten Stamens.*

* *Stamens connected together at the base.*

FURZE (*Ulex.*) Calyx two-leaved; pod swelled, short.

GREENWEED (*Genista.*) Calyx two-lipped, upper deeply cleft.

BROOM (*Cytisus.*) Calyx two-lipped, upper nearly entire.

REST-HARROW (*Ononis.*) Calyx of five very narrow clefts.

KIDNEY-VETCH (*Anthyllus.*) Calyx swelled, five-toothed.

** *Stamens in two bundles, nine united, and one free.*

BITTER-VETCH (*Orobus.*) Style linear, downy; leaves without tendrils.

VETCH-LING (*Lathyrus.*) Style flat, downy; leaves with tendrils.

VETCH (*Vicia.*) Style furnished with a tuft of hair.

TARE (*Ervum.*) Stigma downy all over.

BIRD'S-FOOT (*Ornithopus.*) Pods many together, jointed.

MELILOT (*Melilotus.*) Pods longer than the calyx; flowers in spikes.

CLOVER (*Trefoil.*) Pods shorter than the calyx; flowers in heads.

BIRD'S-FOOT TREFOIL (*Lotus.*) Pod long, swelled, and straight.

MEDICK (*Medicago.*) Pods sword-shaped or twisted.

FUMITORY. *FUMARIA.*

COMMON FUMITORY. *Fumaria officinalis.*

Plate 11—*Fig.* 1.

Found chiefly in cultivated ground, or where the earth has been turned over for building, and is a beautiful little juicy brittle plant, bearing from June to September numerous long bunches of dark pink flowers, which are succeeded by nearly round one-seeded pods. The calyx falls off with the petals, and the lowermost of these is spurred at the base. The leaves are twice or thrice compound, on long stalks.

O. S. Ramping Fumitory and Small-Flowered Fumitory.

PLATE XI

G. Francis del. et sc.

MILKWORT. *POLYGALA.*

COMMON MILKWORT. *Polygala vulgaris.*

Plate 11—*Fig.* 2.

A little tufted plant, abundant on all heaths, flowering in June. It has several simple stems, bearing many flowers near the top of them, either blue, pink, or white. The calyx is of five pieces, three of them small, the other two clasping the flower, like two wings, and becoming colored like the corolla. Leaves small, narrow, or ovate, and without stalks.

FURZE. *ULEX.*

COMMON FURZE, WHIN, or GORSE. *Ulex Europæus.*

Plate 11—*Fig.* 3.

Covering almost all the commons of the United Kingdom. Flowering almost throughout the year, so constantly, indeed, that it is in many parts of the country a popular saying, that when the "Furze is out of blossom, *kissing* is out of favor."

> "On me such beauty Summer pours,
> That I am covered o'er with flowers;
> And when the frost is in the sky,
> My branches are so fresh and gay,
> That you might look at me and say,
> This plant can never die.
> The butterfly, all green and gold,
> To me hath often flown,
> Here in my blossoms to behold,
> Wings lovely as his own."—WORDSWORTH.

It is the only instance of a native shrub without leaves, for instead of them it bears, on its various branches, thousands of long, sharp, branched thorns, and when these are intermixed with the very numerous golden flowers, it is really a splendid and interesting plant.

> "For the golden bud lives in a weapon-girt bower,
> All around and about her are guardians of power,
> And countless spears valiantly set."

Abundant as the Gorse is with us, yet in the Highlands of Scotland it is rare, and wholly unknown in Sweden, the native country of the great Linnæus, who had never seen this plant grow till he came to England: when passing through a lane where a large Furze bush was in full blossom, he stopped to admire it, and forgetting his company, and the place where he was—he, in raptures of delight, and with a sincere and thankful heart, fell upon his knees, and thanked God that he

had lived to see so beautiful a plant. Happy is he who looks at the beauties and bounties of nature with a joyous and a thankful heart!

The poorer people of the country cut down the Furze for winter firing, and for covering sheds and common buildings. In many parts, however, it grows faster than the consumption, and in this case, it is common to set whole fields of it on fire, in order somewhat to clear the ground. When this is done in the Autumn, or gloomy Winter's night, as it generally is, nothing can exceed the grandeur of such a spectacle. At first a mere speck of light is seen, and quivering flames struggle through the heath bushes that are around, but as the flames gather strength, from the increase of fuel, they burn vividly, brightening up rock, mountain, and valley, with their red and brilliant glare—at one time the light diminishes, then again, as a fresh gust of wind catches it, it spreads over the whole prospect—brightening and enlarging in its progress —roaring and rushing forward—the bushes crackling—the smoke driven off in clouds — until at last the fire expends itself, and all is dark again.

"O! 'tis a scene sublime and dire
To see a billowy sea of fire
Rolling its fierce and flaky flood
O'er mountains high, and tangled wood."

O. S. We have only one other species, the Dwarf Furze, which in many places is as common as the above.

GREENWEED. *GENISTA.*

DYER'S GREENWEED. WOD-WAXEN. *Genista tinctoria.*
Plate 11—*Fig.* 4.

In fields, thickets, &c., an upright, branched, thornless plant, one or two feet high, flowering in July and August. Leaves lance-shaped, nearly smooth, and rather distant. Flowers yellow, almost sessile, with a small bract at the base. Pod smooth. Calyx of five nearly equal cuts. The flowers when boiled produce a yellow color, which is used by the dyers to stain woollen yarn with, and for that which is to be afterwards green they prefer it to Weld, *(for which see page* 57.*)*

O. S. Hairy Greenweed, and Needle Greenweed, or Petty Whin, which is not uncommon on heathy ground, it is rather thorny, and with prostrate stems.

Genista ~~SPARTIUM.~~ BROOM.

COMMON BROOM. Ge. Scoparia

Plate 11—*Fig.* 5.

Plant upright, three or four feet high, flowering in June, abundant on heathy and hilly ground. Branches long, straight and green. Flowers large, spreading widely open, bright yellow, upon short stalks, in a small, close, five-toothed calyx. Pods long, flat, hairy on the edges, and dark brown. Leaves formed of three oblong leaflets.

Such is this plant, so often alluded to by the poets and so famous in story. It was once called Planta Genista, whence arose the word Plantagenet, "and fourteen princes of the family of Plantagenet sat on the throne of England for upwards of three hundred years, and yet very few of our countrymen know either the reason of that name or the meaning of it. History tells us that Geoffry, Count of Anjou, acquired the surname of Plantagenet from the incident of his wearing a sprig of Broom on his helmet on a day of battle. This Geoffry married Matilda or Maud, the daughter of Henry I. and from them were descended almost all our Edwards, Richards, and Henries."

"Afar from the cultured haunts of men,
Where nature hath chanced thy seed to fling,
In the turf-covered wild, or the woodland glen,
I've seen thee unfold, 'mid the blossoms of Spring.

"The chieftain, who bore thee high on his crest,
And bequeath'd to his race thy simple name,
Long ages ago hath sunk to his rest,
And only survives in the still voice of fame.

"Though the feeblest thing that nature e'er formed,
A frail and perishing flower art thou;
Yet thy race has survived a thousand storms,
That have made the monarch and warrior bow.

"The storied urn may be crumbled to dust,
Time may the coin, or the statue deface,
But thou wilt be faithful and firm to thy trust,
The memorial flower of a princely race."

Altered from a Poem by S. WARING.

The common name of the plant shows the use to which it is usually put. The young shoots are bitter, and have been employed in medicine—also, the young buds are often pickled, and used as capers.

REST-HARROW. *ONONIS.*

COMMON REST-HARROW. *Ononis arvensis.*
Plate 11—*Fig.* 6.

A shrubby, hairy, dwarf, mostly thorny plant, which spreads itself over commons and barren places, flowering in the middle of Summer. Leaves ovate—the lower one of three leaflets, serrated. Flowers large, rose colored, nearly sessile, either alone, or two together, borne all along the stem. Calyx shorter than the flower, but longer than the pod, which is two or three-seeded. This is a perennial plant.

O. S. Small Spreading Rest-Harrow, a prostrate annual, lately discovered in a wild part of Scotland.

KIDNEY-VETCH. *ANTHYLLUS.*

COMMON KIDNEY-VETCH. LADY'S FINGERS. *A. vulneraria.*
Plate 11—*Fig.* 7.

This little darling grows along and among the grass in pastures, and on hill-sides, flowering in June, and having much of the appearance of Bird's-foot Trefoil—but is at once known by its pinnate leaves, and the heads of flowers being in pairs. The pinnate leaves have from five to nine leaflets, which are entire, and hairy. The flowers are of a fine bright yellow color, in crowded heads, with hairy calyces, and large, finger-shaped bracts.

BITTER-VETCH. *OROBUS.*

TUBEROUS BITTER-VETCH. *Orobus tuberosus.*
Plate 11—*Fig.* 8.

In thickets, flowering in May, growing eight or ten inches high. Leaves pinnate, of from two to four pair of leaflets, without any leaflet or tendril at the end. Stipules half arrow-shaped. Stem erect, winged, not branched. Flowers purple, veined, in long, stalked bunches. Pods long, hanging down, round, black. Root tuberous. Sometimes eaten by the Highlanders.

O. S. Black Bitter-Vetch, often grown in gardens, found wild in Scotland only, it turns black in drying — Wood Bitter-Vetch, a whitish-flowere species, found in the Northern Counties.

VETCHLING. *LATHYRUS.*

Meadow Vetchling. *Lathyrus pratensis.*

Plate 11—*Fig.* 9.

An exceedingly common, and very beautiful, yellow-flowered plant, that climbs among the bushes in the thickets and hedge-rows. The flowers are large, and showy, eight or ten of them upon a stalk. Leaves formed of two lance-shaped leaflets, and a long, two or three-cleft, twisted tendril. Stipules as large as the leaves, growing at every joint along the stem and branches. Pods long, smooth, and black. Cattle are very fond of this plant.

O. S. Yellow Vetchling—Crimson Vetchling, or Grass-Vetch—Rough-Podded Vetchling—Blue Marsh Vetchling—Narrow-Leaved Everlasting Pea—Broad-Leaved Everlasting Pea, very often grown in gardens—and Sea-side Everlasting Pea, which it is said once grew in such abundance near Aldborough, in Suffolk, that during a time of famine, three hundred years ago, the neighbouring people were kept from starvation by gathering the seeds. It still grows in the same place.

VETCH. *VICIA.*

Tufted Vetch. *Vicia cracca.*

Plate 11—*Fig.* 10.

Stem climbing. Flowers on long stalks, many together.

One of the most elegant plants, well deserving a place in the gardens, for when trained upon two or three sticks, as Sweet Peas are, it forms a fine, flowering, graceful plant, of some feet in height. When it climbs among the hedges, its long, upright bunches of fine blue, drooping flowers, as numerous as they are beautiful, always attract attention, for at every leaf throughout the whole plant, a flower stalk grows, and this bears, perhaps, thirty flowers, close together, and lapping over each other, so as to appear as a spike of the most vivid blue. The leaves are of about ten pair of slightly-hairy leaflets, and ending in a much-branched, long tendril. Pods smooth.

Common Vetch. *Vicia sativa.*

Plate 11—*Fig.* 11.

Stem upright. Flowers nearly sessile, two together.

It may be doubted if the Common Vetch or Tare, as it is called, be really a native plant, though it is so often cultivated

either alone or with Rye Grass, as a green Spring food for cattle. It mostly grows upright, blossoms in May or June, bears about two flowers together, and these are of a reddish-purple color, very nearly sessile. The leaves are pinnate, with a branched tendril. Leaflets from two to six pair, and, as well as the stem, the leaf-stalks, the tendrils, and the pods, all more or less hairy. Stipules small, with a black spot upon each of them. Pod many-seeded. Seeds quite smooth—they are a favorite food for pigeons.

O. S. Wood Vetch, found in the North—Narrow-Leaved Crimson Vetch—Spring Vetch—Rough-Podded Yellow Vetch—Hairy Flowered Yellow Vetch—Smooth-Podded Vetch—Rough-Podded Purple Vetch—and Bush Vetch, the last by no means rare.

TARE. *ERVUM.*

Hairy Tare. *Ervum hirsutum.*

Plate 11—*Fig.* 12.

This is but too common among the corn, creeping along for two or three feet from the root, twisting around, and clasping hold of every thing it comes near to, and sometimes so abundant that whole fields of corn are materially damaged by it. The stem is square, very weak, and slender. The flowers blue, very small, and insignificant, five or six together, on a long stalk. Leaves of many pair of leaflets, and ending in a branched tendril. Leaflets truncate, that is, cut off at the end, with a point in the middle. Stem and pods hairy—the latter two-seeded.

This is justly alluded to in the Holy Scriptures, as a weed, not only worthless in itself, but choking plants of nobler uses. A Tare then amongst the Wheat well represents the idle and ungrateful, who cramp the exertions, and stifle the resolves of the industrious and the benevolent.

O. S. Four-Seeded Tare, almost as baneful as the former, but more rare. It bears only two flowers together, and its pods are smooth, and four-seeded.

BIRD'S-FOOT. *ORNITHOPUS.*

Common Bird's-foot. *Ornithopus perpusillus.*

Plate 11—*Fig.* 13.

One of the most beautiful little plants, rare in Scotland, but in the sandy and gravelly parts of England one of the

most common; it creeps on the ground, with five or six little stems, not above three or four inches in length. The flowers are very small, and most delicate, of a whitish-pink color, striped with purple, and many of them together in a head—each head of flowers attended by an elegant, pinnate leaf, like those on the rest of the plant, which are formed of eight or ten pair of opposite, ovate leaflets, with one at the end. The pods are curved upwards and beautifully jointed, like a bird's foot, hence the name. *fl in May*

"Did you ever see the Bird's-foot,
When growing on the sand,
A pretty, little, spreading plant,
Scarce larger than your hand?

"Did you e'er see its whitish flowers,
All striped and tinged with red,
Attended by a light green leaf,
And gathered in a head?

"Did you e'er see the leaves themselves,
Of little leaflets made,
Or pluck its curved and jointed fruit?
If so—you've been repaid.

"If not—go search the commons round,
'Tis delicate and fair.
And though so often called a weed
It well deserves your care"

MELILOT. *MELILOTUS.*

COMMON YELLOW MELILOT. *Melilotus officinalis.*
Plate 11—*Fig.* 14.

This grows in the same climbing manner as the Tufted Vetch, before described, and if cultivated would form as handsome a plant; that is blue, but our present has yellow flowers, crowded together on one-sided spikes—rising from the axils of the leaves. The leaves are in three, each leaflet ovate, blunt, sharply serrated, with two horns at the base of the leaf-stalk. Calyx small. Pod two-seeded. The Latin name means the Honied Lotus, and it is so called, because, when drying, it has a sweet fragrance, like that of honey. *fl. June & July*

O. S. White Melilot, which smells even more sweetly.

CLOVER. TREFOIL. *TRIFOLIUM.*

WHITE TREFOIL, or DUTCH CLOVER. *Trifolium repens.*
Plate 11—*Fig.* 15.

Flowers white, large. Stem creeping. Pods with four seeds.

None other of the English Clovers resemble this in appear-

ance, its flowers are of a pure white, in large, round, long-stalked heads, they droop down when in seed, and thus the seed falls to the ground. Stem long and creeping. Leaflets roundish, toothed, on long stalks, generally darker-colored towards the stalk, and streaked with white across the middle.

This is the celebrated Shamrock of the Irish, and as such its leaf is blended with the Rose of England and the Thistle of Scotland, to show the union of the three Kingdoms. Moore, in his beautiful Irish Melodies, has not forgotten his country's emblem. He says :—

"Where'er they pass, a triple grass
Shoots up with dew drops streaming.
As softly green—as emeralds seen
Through purest crystal gleaming.
Oh, the Shamrock! the green immortal Shamrock!
Chosen leaf of bard and chief.
Old Erin's native Shamrock!"

COMMON PURPLE TREFOIL. *Trifolium pratense.*
Plate 11—*Fig.* 16.

Flowers purple. Stem creeping. Pods with one or two seeds.

This is the Red Clover, so often cultivated for hay, and so much esteemed as a rich food for cattle. It is a beautiful plant, growing a foot or more high, with upright stems and large heads of numerous flowers. The leaves are long stalked, with large, pale-colored stipules at their base. Leaflets ovate, pointed, all hairy, and often with a white spot upon them. The lower tooth of the calyx is much larger than the rest. *1st June to July*

HARE'S-FOOT TREFOIL. *Trifolium arvense.*
Plate 11—*Fig.* 17.

Flowers white, minute. Stem upright. Calyx longer than the corolla.

The soft, silky, oblong heads of flowers of this species serve to distinguish it, as well as the upright and branched manner of growth. The flowers are white, and so small as to be scarcely visible. The calyx is reddish, very long, and with points, so hairy that the heads of flowers, (one of which is at the end of every stem and branch,) appear like thick, oblong bunches of hairs. Leaves small, rather blunt, and, as well as

the stem, hairy. Flowering in June and July, in corn fields, and dry pastures, growing a few inches high.

HOP TREFOIL. *Trifolium procumbens.*
Plate 11—*Fig.* 18.

Flowers yellow, many together. Stem prostrate.

Known at once by the numerous, dense heads of yellow flowers, like hops, and quite unlike those of any other species. It grows in dry pastures, and in the borders of fields, flowering in June and July.

O. S. Bird's-foot Trefoil—Subterraneous Trefoil—Sulphur-colored Trefoil—Zigzag Trefoil—Teasel-Headed Trefoil—Starry Headed Trefoil—Rough Rigid Trefoil—Smooth Round-Headed Trefoil—Suffocated Trefoil—Soft Knotted Trefoil—Strawberry-Headed Trefoil, and Reversed Trefoil.

BIRD'S-FOOT TREFOIL. *LOTUS.*

COMMON BIRD'S-FOOT TREFOIL. *Lotus corniculatus.*
Plate 11—*Fig.* 19.

This is not to be taken for the elegant little plant before mentioned called Bird's-foot, that has many leaflets and a jointed pod, this has smooth long pods, about three or four together, spread out like a bird's-foot, it has three leaflets in each leaf, and therefore its name Trefoil must be used. The flowers are on long stalks, yellow, streaked with red, and each bunch of flowers with a small leaf attending it. Stipules of the size and shape of the leaflets. Stem creeping. Flowers appearing in July and August on almost every pasture and waste ground.

O. S. Three other species that do not differ much from the above.

MEDICK. *MEDICAGO.*

BLACK MEDICK or NONSUCH. *Medicago lupulina.*
Plate 11—*Fig.* 20.

A little plant which creeps over the earth in pastures and cultivated ground, in appearance much like the Hop-Trefoil, the pods which are very numerous, twisted and black when ripe, show at once the difference between them. The leaves are three together, roundish, stalked, and slightly hairy.

Flowers yellow, in crowded heads. Stems hairy. This is so valuable a plant in agriculture, that once none were thought to be equal to it in fattening cattle, and it was therefore called Nonsuch. fl fr^m June to Sept^r

O. S. Yellow Sickle Medick, with yellow flowers and pods shaped like a sickle—Purple Medick, often grown and known by the name of Lucerne—Spotted Medick—Flat-Toothed Medick—Little-Toothed Medick—and Reticulated Medick, some of them very rare.

CLASS 17.—POLYANDRIA.

(Containing Plants with their Stamens in more than one bundle.)

A small class, containing only one family or genus of native plants, and this is the St. John's Wort, some species of which are well-known ornaments in the gardens, and others common in the fields and woods. They are beautiful plants, all of them bearing yellow flowers, of five petals. Calyces of five leaves, and capsules of many seeds.

ST. JOHN'S WORT. *HYPERICUM.*

PERFORATED ST. JOHN'S WORT. *Hypericum perforatum.* *Plate* 12—*Fig.* 1.

Leaves covered with shining dots or small holes.

Abundant everywhere, in hedges, woods, and thickets—rearing up its heads, rich with golden flowers, to the height of a foot or two. It may be known at once from the next, by being larger, and having its leaves nearly pierced through with a number of small holes, so that, when held up to the light, they may be almost seen through. The calyx, the corolla, and sometimes the leaves, have black dots around their edges and tips.

Because of its pierced leaves, and the property it was supposed to have in curing wounds, it is said by the poets to be dedicated to War. fl. July & Aug^t

"Hypericum was there, the herb of war,
Pierced through with wounds, and marked with many a scar."

PLATE XII

SMALL UPRIGHT ST. JOHN'S WORT. *H. pulchrum.*
Plate 12—*Fig.* 2.

And well does it deserve all its names. It is small and delicate—grows quite upright, and is equalled by very few plants in the abundance of its flowers, or the richness of their colors. Well does Cowper say,

> "Hypericum, all bloom, so thick a swarm
> Of flowers, like flies, clothing its slender rods,
> That scarce a leaf appears."

They are of a fine golden yellow, tinged with red before opening—with the stamens numerous, red in color, and in three sets. The leaves opposite, very small, heart-shaped, and smooth. Calyx serrate, with black tips. Commonly grows on dry banks and on heaths—flowering in July.

O. S. Large Flowered St. John's Wort, a beautiful shrub, often grown in gardens—Square-Stalked St. John's Wort—Imperforate St. John's Wort—Trailing St. John's Wort—Mountain St. John's Wort—Bearded St. John's Wort—Hairy St. John's Wort—and Marsh St. John's Wort.

CLASS 19.—SYNGENESIA.

(Anthers united into a tube. Flowers compound.)

All the plants of this class so much resemble each other, as to form a perfectly natural order, (Compositæ.) No poisonous plant is found among them, but it consists chiefly of such as are bitter in taste, and strengthening in quality. Many are esteemed as ornamental, though few of British growth; we have, however, some of the Everlasting Flowers, and the Daisies.

> "And the Thistle is here, but it should not be
> Admitted I think in such company
> So we'll pass it by—though its purple globe
> Might outvie the tints of an emperor's robe.
> And the martial leaves that begirt its stem
> Are like guards around a regal diadem.
> It is armed at all points with a hostile fence,
> Eager to wound for each slight offence,
> Like vulgar pride in its consequence.
> So we'll none of the Thistle tribe or nation,
> Nor the surly Nettle, its near relation."—A. STRICKLAND.

In looking at any of the flowers of this class, it will be found that they consist of a great number of little florets, all growing upon one calyx. The corollas are, in some plants, all alike in shape, either strap-shaped or like a tube—in others of two sorts, those on the edge of the flower different in shape from those withinside—thus in the Single Marigold the outside flowers are strap-shaped, the inner ones tubular, and this is very often the case. Also, in some plants, all these numerous flowers have both stamens and pointals—in others, either the stamens are wanting, or the pointals, or both, and from these circumstances the orders are formed.

Order 1. *ÆQUALIS.*

All the florets with both stamens and pointals.

* *Corollas all strap-shaped.*

Goat's-beard (*Tragopogon.*) Calyx single; crown feathery.

Lettuce (*Lactuca.*) Calyx double; crown like hairs; fruit with a long beak.

Hawk's-beard (*Crepis.*) Calyx double; crown like hairs; fruit without a beak, but narrower upwards.

Sowthistle (*Sonchus.*) Calyx triple; crown sessile, like hairs.

Dandelion (*Leontodon.*) Calyx double; crown stalked, like hairs.

Hawkweed (*Hieracium.*) Calyx tiled; crown sessile, like hairs.

Nipplewort (*Lapsana.*) Calyx double; crown none.

Succory (*Cichorium.*) Calyx double; crown sessile, scaly.

** *Corollas all tubular.*

Burdock (*Arctium.*) Calyx hooked; crown short, like hairs.

Tansey (*Tanacetum.*) Calyx tiled; crown a membranous margin.

Wormwood, &c. (*Artemisia.*) Calyx tiled, few flowered; crown none.

Cudweed (*Gnaphalium.*) Calyx tiled; crown like hairs.

Butter-bur (*Petasites.*) Calyx double; crown like hairs.

Order 2. *SUPERFLUA.*

Florets of the centre tubular, and bearing stamens and pointals. Florets of the edge strap-shaped, and bearing pointals only.

Colt's-foot (*Tussilago.*) Calyx single; crown single, like hairs.

Groundsel (*Senecio.*) Calyx double; crown single, like hairs.

Fleabane (*Pulicaria.*) Calyx tiled; crown double, like hairs.

Daisy (*Bellis.*) Calyx single; crown none.

Ox-eye (*Chrysanthemum.*) Calyx tiled, its leaves bordered: crown none.

Feverfew (*Pyrethrum.*) Calyx tiled, its leaves bordered; crown a skin-like border; receptacle naked.

Mayweed (*Matricaria.*) Calyx tiled, its leaves not bordered, blunt; crown none; receptacle naked.

Chamomile (*Anthemis.*) Calyx tiled, its leaves bordered; crown none, or else a border; receptacle convex, chaffy.

Yarrow (*Achillea.*) Calyx tiled, its leaves not bordered; receptacle flat, chaffy; crown none.

Order 3. *FRUSTRANEÆ.*

Florets of the centre with both stamens and pointals—those of the edge with neither, or with stamens only. All the florets tube-shaped.

Knapweed (*Centaurea.*) Calyx tiled; crown none, or else hairy; receptacle chaffy.

GOAT'S-BEARD. *TRAGOPOGON.*

Yellow Goat's-beard, *Tragopogon pratensis.*

Plate 12—*Fig.* 3.

In meadows and pastures, an upright plant, with long, pointed, grass-like leaves. Calyx also long and pointed—at first longer than the corolla, but afterwards the corolla is the longer. Flowers yellow, opening as early as four o'clock in the morning, and closing again just before twelve. Thus it has got the name of "John go to bed at noon," and the farmer's boys of some parts of the country, knowing this,

regulate their dinner time by the closing of the Goat's-beard. In cloudy weather, however, it does not unfold its petals at all.

"Broad o'er its imbricated cup,
The Goat's-beard spreads its golden rays,
But shuts its cautious petals up,
Retreating from the noontide blaze."—C. SMITH.

In the Midland Counties of England it is commonly called *Hokum Pokum*, and in the spring of the year the peasants dig up the roots, which are a pleasant and wholesome food, when boiled tasting much like asparagus. The head of seeds is one of the most beautiful objects that can be imagined, even more so than the *blow-balls* of the Dandelion, as each seed is furnished with a star-like crown of most elegantly-branched feathers, and altogether they form a head as round and as large as a cricket ball. *H. May & June*

O. S. Purple Goat's-beard or Salsafy, rather rare.

LETTUCE. *LACTUCA.*

IVY-LEAVED LETTUCE. WALL LETTUCE. *Lactuca muralis.*
Plate 12—*Fig.* 4.

A very common plant on both waste and cultivated grounds, on rubbish and on walls, it grows upright, two or three feet high, with a much-branched head of small, yellow flowers, inclosed in a long calyx, with a few scales underneath, which form a second calyx. The stalks that bear the flowers have ovate, very small bracts, and they are very irregular in position, some of them grow upright, others downward—some straight, and others curved. The flowers are small, yellow, of one row of florets only, the corollas of which are strap-shaped, and with four or five teeth at the end. Leaves clasping the stem, and very curious in shape. The smaller ones are arrow-shaped, but very much and deeply notched, and with a broad, leafy, winged foot-stalk. The lower leaves are larger, longer, and have two or three leaflets, or large lobes on the winged stalk. All the leaves are very thin, delicate, and of a light green, sometimes hairy, at others smooth. *H. July*

O. S. Strong-scented Lettuce, which is poisonous—the Prickly Lettuce, and Least Lettuce, both of them of the same properties as the Garden Lettuce, that is, producing sleep. They all yield a milky juice, and close their flowers during the night.

HAWK'S-BEARD. *CREPIS.*

SMOOTH HAWK'S-BEARD. *Crepis virens or C. tectorum.*
Plate 12—*Fig.* 5.

Root leaves smooth, runcinate. Stem leaves narrow. Stem smooth, with two or three branches, each with a yellow flower at the top. Calyx with the outer row of scales very narrow and rough. Crown white, like hairs, longer than the fruit, and soon falling off. It is very variable in size, neither elegant nor useful, flowers in July, and found on walls, roofs, &c.

O. S. Rough Hawk's-beard—Small Flowered Hawk's-beard—Succory-Leaved Hawk's-beard—and Marsh Hawk's-beard.

SOW-THISTLE. *SONCHUS.*

COMMON SOW-THISTLE. *Sonchus oleraceous.*
Plate 12—*Fig.* 6.

A plant of the fields and orchards, growing two or three feet high, with upright, smooth, hollow stems. Leaves more or less divided, only the lower ones stalked. Flowers small, yellow, numerous, growing in umbel-shaped bunches. Calyx smooth. Whole plant juicy, of a whitish-green color, very nutritious to the cattle, and like many other plants of this class yields a milky juice, which is narcotic, or produces sleep.

O. S. Blue Alpine Sow-Thistle—Tall Marsh Sow-Thistle—and Corn Sow-Thistle, the last rather common in corn fields.

DANDELION. *LEONTODON.*

COMMON DANDELION. *Leontodon Taraxacum.*
Plate 12—*Fig.* 7.

I think I need scarcely describe this well-known herb, which grows nearly everywhere, and at almost all times—yet, perhaps, you may never have observed that the flowers are not to be found open, except at particular times of the day. It is one of the most correct dial flowers, closing at five in the afternoon, and opening again at seven in the morning.

> "Leontodons unfold
> On the swart turf their ray encircled gold,
> With Sol's expanding beam the flowers unclose,
> And rising Hesper lights them to repose."—DARWIN.

The Dandelion is a much despised flower, and yet it is very beautiful, and very useful too. It is eaten instead of Endive,

particularly by the French, as a salad—and it yields to the country children much amusement, in holding up its balls of feathery, winged seeds, blowing them before the wind, and then seeing if one seed remains to be their own *true love*. Many other funny little stories are told about this plant, which in some parts of the country is called by children, the Fortune Teller. Our friend Howitt speaks thus—

fl. from March to May

"Dandelion, with globe of down.
The school boy's clock in every town,
Which the truant puffs amain
To conjure lost hours back again."

And Mrs. Strickland has not forgotten to draw a moral even from so simple a plant. She speaks of the wind which

"Whirls the 'blow-balls' new-fledged pride,
In many rings on high.
Whose downy pinions once unfurled,
Must onward fly.

"Each is commissioned, could we trace
The voyage to each decreed,
To convoy to some distant place
A pilgrim seed.

"His wisdom thus we dimly see,
Who through creation's chain,
Hath formed all things in harmony,
And nought in vain."

HAWKWEED. *HIERACIUM.*

COMMON MOUSE-EAR HAWKWEED. *Hieracium pilocella.*
Plate 12—*Fig.* 8.

Stalks with one flower only, and without leaves.

On dry, gravelly places, creeping along the ground, flowering in the Summer and Autumn. Leaves ovate, without teeth or notches, hairy at top, downy underneath. Flowers of a pale yellow, one on each stalk, and two or three inches above the ground. Stems creeping, by which it is always known. All the species open their flowers in the morning, and close them at night. The present wakes at eight in the morning, and go to sleep at two in the afternoon. fl. from May to July

"See Hieracium's various tubes,
Of plumy seed and radiant flowers,
The course of time their bloom describe,
And wake or sleep appointed hours."—C. SMITH.

SHRUBBY BROAD-LEAVED HAWKWEED. *H. Subaudum.*
Plate 12—*Fig.* 9.

Stalks with several flowers, and several leaves upon it.

Scattered like the next over thickets, heaths, and walls, and like all of the genus flowering in the Summer and Autumn. This may be known by its many-flowered stalk, bearing lance-shaped, sharp-pointed, toothed, nearly smooth leaves, at short distances from each other. The stem is quite upright, and grows from one to two feet high.

NARROW-LEAVED HAWKWEED. *Hieracium umbellatum.*
Plate 12—*Fig.* 10.

The leaves of this are very narrow and very numerous. The stem upright, a foot or more high, not branched, and bearing on the top of it an umbel of several, rather large, yellow flowers, with downy stalks and smooth calyces.

O. S. The two next commonest species are Wood Hawkweed, and Wall Hawkweed—besides which Britain produces the Orange Hawkweed, so often grown in gardens under the name of Cat's-Ear—Alpine Single Flowered Hawkweed—Branching Mouse-Ear Hawkweed—Orange Mouse-Ear Hawkweed—Honey-wort Leaved Hawkweed—Amplexicaul Hawkweed—Small Toothed Hawkweed, and Rough-Leaved Hawkweed. It is a very difficult family of plants.

NIPPLEWORT. *LAPSANA.*

COMMON NIPPLEWORT. *Lapsana communis.*
Plate 12—*Fig.* 11.

An upright, branched plant, common on waste grounds and on walls, growing two feet or more high, with small, yellow flowers, inclosed in a ribbed, angular calyx of five leaves, and two or three narrow scales below them. The leaves are ovate or heart-shaped, toothed all round the edges, and stalked. Flowers in July and August.

O. S. Dwarf Nipplewort, found in corn fields, not very rare.

SUCCORY. *CICHORIUM.*

WILD SUCCORY. *Cichorium Intybus.*
Plate 12—*Fig.* 12.

On waste lands, road-sides, borders of fields, &c., flowering in July and August, growing two or three feet high. The stem is upright, rigid, straggling, branched. Leaves runcinate. Flowers two together, without stalks, upon and at the joints of the stems.

This is one of England's fairest gems—for the flowers are of the brightest, clearest, purest blue, too delicate to last. The azure blue color in all flowers is generally fleeting—thus in a collection of dried plants the blue ones are most liable to lose their color. The Succory is particularly of this character. The flowers are among those which sleep for certain hours. They will be found open as early as sun-rise :—

> " On upland slopes, the shepherd's mark
> The hour, when, as the dial true,
> Chicorium to the towering lark
> Lifts her soft eyes serenely blue."

This plant is interesting too for its uses. Its leaves when young taste like the garden Endive, which is but another species of Succory, and for the sake of these, as a salad, the plant is often cultivated in France and Germany. The roots are the well-known substance, called Chicory, and which has been used of late years to mix with coffee, to add flavor and color to it. When made for the table, a small quantity is an improvement, but too much of it is disagreeable, as it then makes it taste like Spanish liquorice. This powdered Succory or Chicory, is made by washing and drying, and afterwards grinding the roots to powder.

BURR. BURDOCK. *ARCTIUM.*

COMMON BURDOCK. *Arctium Lappa.*

Plate 12—*Fig.* 13.

A large, bushy, branched, and coarse plant of the hedges, the river banks, and way-sides, three or four feet in height, flowering in July. The leaves are heart-shaped, stalked, larger than upon any other British plant, and are well-known under the name of *Water-dock* leaves, though not at all like any of the Dock tribe. Their size and shape are alluded to in the " Butterfly's Ball"—

> " A Mushroom the table, and on it was spread
> A Water-dock leaf, which the table cloth made."

The flowers are like thistle heads, and the calyx, which covers the flowers and afterwards incloses the seeds, is of many leaves, folding over each other, like the tiles of a house, each furnished with a hook at the end. Thus the whole head

of seeds is surrounded with hooks, and these not only preserve them from being eaten, but by their clinging to any thing rough which touches them, such as the skins of cattle, they are thus conveyed, and the plant thereby dispersed, to a distance. Children pluck these burrs, and stick them on each other's clothes for amusement.

TANSEY. *TANACETUM.*

COMMON TANSEY. *Tanacetum vulgare.*

Plate 12—*Fig.* 14.

An upright plant, growing two or three feet high, with exceedingly beautiful, much-divided, dark green leaves, and flat heads of numerous, small, bright yellow, autumnal flowers. Often cultivated in gardens, and found wild in the borders of fields and on road-sides. In medicine it is valuable for its fine bitter flavor, and strengthening properties; and, though the taste is disagreeable to most persons, yet the young leaves are often used by country people to flavor puddings, &c.

fl. July & Aug.

WORMWOOD, &c. *ARTEMISIA.*

SEA WORMWOOD. *Artemisia maritima.*

Plate 12—*Fig.* 15.

Leaves white on both sides.

On the sea-shore, and on river-banks, as far as the salt water flows over them, is frequently to be seen a plant, every part of which is downy and of a perfectly white color, this is the Sea Wormwood. Besides this it may be known by the various stems (sometimes quite upright and sometimes drooping at the top) being thickly covered with leaves on all sides. These leaves are cut in very narrow divisions and twice compound. The flowers are very small and insignificant, borne all along the upper part of the numerous branches. The whole plant is very bitter in taste.

fl. in Aug.

COMMON WORMWOOD. *Artemisia Absinthium.*

Plate 12—*Fig.* 16.

Leaves dark green above, white underneath. Flowers yellow.

Waste ground and near villages, generally escaped from the gardens where it is grown for its use as a medicine. The plant

fl. Aug.

is one foot or more high, much branched, with divided, cottony leaves, green above, and white beneath. The flowers, which cover all the branches, are yellow, roundish, and drooping. The taste of the plant is warm, aromatic, and most intensely bitter.

MUGWORT. *Artemisia vulgaris.*

Plate 12—*Fig.* 17.

Leaves dark green above, white underneath. Flowers purple.

Much more common than either of the others, found in hedge-rows almost everywhere, flowering in August. It is known from them by being less bitter; the leaves less cut; cottony only on the under side; the flowers with a less number of leaves among them, in thicker bunches, and of a purple color. Its properties are similar to the last, but less powerful.

O. S. Field Wormwood, and Bluish or Lavender-Leaved Mugwort, both rare.

CUDWEED. *GNAPHALIUM.*

MARSH CUDWEED. *Gnaphalium uliginosum.*

Plate 12—*Fig.* 18.

Flowers brown, in bunches, shorter than the leaves.

The three Cudweeds here described are abundant in gravelly places, where they have often nothing but the bare gravel to attach their roots to. They are known at once from all other plants—first, from their being wholly covered with a white, downy cotton, and from their flowers, which are of that sort we call "Everlasting." The leaves of the calyx are stiff, horny, and shining, either of a white or of a yellow color. The present species has a very much branched and diffuse woolly stem, narrow but long leaves; and its flowers sessile, in terminal, thick clusters, which are shorter than the leaves. Scales of the calyx brown, and smooth. The height of the plant is not more than three or four inches, and, like the others, it flowers in the Autumn.

LEAST CUDWEED. *Gnaphalium minimum.*

Plate 12—*Fig.* 19.

Flowers yellow, in bunches, longer than the leaves.

Leaves ovate, sharp-pointed, lying close to the stem.

PLATE XIII

C Francis del. et sc.

Flowers four or five together, very light yellow, in heads, both at the top, the sides, and the divisions of the branches. Grows four to six inches high. *fl. July*

COMMON CUDWEED. *Gnaphalium Germanicum.*
Plate 12—*Fig.* 20.

Flowers yellow, in round bunches.

Stem six or eight inches high, covered with lance-shaped, downy leaves, and ending in a round head of numerous, yellowish-white flowers—out of this grow two wide-spreading branches, with a similar head of flowers at the top, these again producing other branches, and so on. *fl. July & Aug.*

O. S. Mountain Cudweed—Pearly Everlasting, one of the most common garden plants, but rare in a wild state—Wood Cudweed—Dwarf Cudweed—and Narrow-Leaved Cudweed. One species often grown in gardens, producing very brilliant yellow flowers, called by the French "Immortelles" is sometimes stained by them of various colors, and either thus, or in a natural state, made into garlands and wreaths, to decorate the tombs of their departed friends: thus making the lovely flower an emblem equally of the immortality of the beloved deceased, and of their own never-ending regret. In the burial ground of "Le Pere la Chaise," thousands of these mementoes of severed ties, but continued affection, may be viewed around.

BUTTER-BUR. *PETASITES.*

COMMON BUTTER-BUR. *Petasites vulgaris.*
Plate 13—*Fig.* 1.

On river-banks and wet meadows, where it spreads about widely on account of its very long, under-ground, stem-like roots. In March whole acres may sometimes be seen covered with the thick, upright, club-shaped spikes of flesh-colored flowers, and at a later season with the very large, heart-shaped, stalked leaves, which are of a light green color at top, and downy beneath. The flowers are very seldom found with pointals, and thus seldom produce seed. The very early blossoming of the Butter-bur, when scarcely another plant is to be seen; assembles on its flowers, large numbers of the industrious bees, who even in the winter, though they have a store-house at home, lose no opportunity of adding fresh sweets to their hive, and fresh food for the benefit of their community.

" We may learn from the bee the wise man's lore,
' The hand of the diligent gatherest store.'
He plies in his calling from morn till night,
Nor tires of his labor, nor flags in his flight.
From numberless blossoms of every hue,
He gathers the nectar, and sips the dew.
Then homeward he speeds
O'er the fragrant mead,
And he hums as he goes his thankful lay.
Let our thanks too arise,
For our daily supplies,
As homeward and Heavenward we haste on our way!"—S.

COLT'S-FOOT. *TUSSILAGO.*

COMMON COLT'S-FOOT. *Tussilago farfara.*

Plate 13—*Fig.* 2.

On banks, &c., particularly where there is clay—so common as to be a very troublesome weed, it flowers as early as March, before the leaves make their appearance. The flowers are yellow, and one upon a stalk, soon changing into a shining, silky, and beautiful head of long, white, cottony hairs. The leaves are heart-shaped, angular, toothed, downy beneath. This is the plant that is considered so useful for coughs and colds, when boiled or made into lozenges.

GROUNSEL. *SENECIO.*

COMMON GROUNDSEL. *Senecio vulgaris.*

Plate 13—*Fig.* 3.

Florets without strap-shaped petals. Flowers scattered.

At almost all seasons of the year, and in all places, this is abundant. In gardens it is one of the most troublesome weeds, as it grows so fast, and produces a large quantity of feathery seeds, which the wind scatters about far and wide.

" How many plants, we call them weeds,
Against our wishes grow,
And scatter wide their various seeds,
With all the winds that blow."

Surely it is not necessary to describe so common a plant, and one which is gathered so frequently as food for the little birds in cages, who love the young leaves, the buds, and the plumy seeds. There are one or two sorts of Groundsel very much like this, though they are not common. Our present plant is known from them by having its calyx leaves black-pointed.

COMMON RAGWORT. *Senecio Jacobæa.*
Plate 13—*Fig.* 4.

Flowers rayed. Corolla of the outer florets narrow.

This grows in watery places, on road-sides, and in meadows. The flowers are yellow, in terminal, loose heads, with the petals of the ray very narrow, and distant from each other. The leaves are very deeply, and unequally cleft, and smooth. Stem two or three feet high. Flowering time July and August.

MARSH RAGWORT. *Senecio Aquaticus.*
Plate 13—*Fig.* 5.

Flowers rayed. Corolla of the outer florets wide.

In wet places, banks of rivers, &c., this may be almost always found—it is a plant very similar to the last, but higher in growth, with larger flowers, the corollas of the ray flowers wide, and the leaves not so much cut and divided.

O.S Stinking Groundsel—Wood Groundsel—Inelegant Groundsel—Hoary Groundsel—Great Fen Ragwort—and Broad-Leaved Groundsel.

FLEABANE. *PULICARIA.*

COMMON FLEABANE. *Pulicaria dysenterica.*
Plate 13—*Fig.* 6.

Found in moist places, growing a foot high, and flowering in the Autumn. Stem upright, branched at the top and bearing one or two flowers upon each branch. Leaves oblong, partly clasping the stem, wrinkled, and downy. Flowers an inch or more across, with many rayed flowers. The plant has but a slight taste and no smell.

DAISY. *BELLIS.*

COMMON DAISY. *Bellis perennis.*
Plate 13—*Fig.* 7.

If there be one plant more than another which is a general favorite it is the Daisy, for it greets us in all our walks—do we climb the mountain steep, there is the Daisy—do we saunter over the many-flowered valley, there also is the Daisy—in the park and on the lawn, in the meadow and on the heath, the Daisy rears his cheerful little face, as if to welcome us to

his lowly habitation on the turf beneath our feet—at all seasons too ; not visiting us in the warm and sunny hours of summer only, but amid the short and bleak days of frost and snow, for well has the poet Montgomery said :—

" O'er waste and woodland, rock and plain,
Its humble buds unheeded rise,
The Rose has but a Summer's reign,
The Daisy never dies."

And Wordsworth also has the same thought, he says,

" When Winter decks his few gray hairs,
Thee in the scanty wreath he wears.
Spring parts the clouds with softest airs,
That she may sun thee !
Whole Summer fields are thine by right,
And Autumn, melancholy wight,
Doth in thy crimson head delight,
When rains are on thee."

We might call this " bonnie gem" by a thousand sweet names, and liken it to every thing charming and innocent ; for it is " the child's own flower, the emblem of infancy itself." The poets abound with the most elegant thoughts on this little favorite. You of course have read Burns' beautiful poem on " The Daisy turned up by his plough," and the two no less beautiful poems of Wordsworth, and the charming lines of Montgomery, and those by Dr. Leyden, and those by the Rev. W. Fletcher. But it is not its simple beauty and innocence which alone attracts our attention, it is one of the flowers which belongs to Flora's clock—it opens at sunrise, and closes at sunset, and this curious property was known to belong to the Daisy, very, very long ago, and is the origin of its name. Chaucer calls it the " eie of the daie"—and Ben Jonson writes it " day's eye"—and Spencer says, " The little Daizie that at evening closes." But I linger too long, perhaps, over this little darling—I confess I love it. The following is, however, too beautiful to be omitted :—

" Not worlds on worlds in phalanx deep,
Need we to prove a God is here.
The Daisy fresh from Winter's sleep,
Tells of His hand in lines as clear.

" For who but He who arched the skies,
And pours the day-springs living flood.
Wondrous alike in all He tries,
Could raise the Daisy's purple bud.

" Mould its green cup, its wiry stem,
Its fringed border nicely spin,
And cut the gold embossed gem,
That, set in silver, gleams within.

" Then fling it unrestrained and free,
O'er hill and dale and desert sod,
That man, where'er he walks may see
In every step the stamp of God!"—MASON GOOD.

OX-EYE. *CHRYSANTHEMUM.*

GREAT WHITE OX-EYE. *Chrysanthemum Leucanthemum.*
Plate 13—*Fig.* 8.

Leaves oblong, blunt, notched, and cut at the lower part. Stem erect, branched, one foot or more high. Flowers large, yellow in the centre part, and pure white around the edges. This is a very beautiful flower in appearance, like a Marigold or very large Daisy. It closes up at night, or before a storm, and is common in fields and near the sea. *Fl. June & July*

" There gay Chrysanthemums repose,
And when stern tempests lower,
Their silken fringes softly close
Against the shower."—A. STRICKLAND.

O. S. Corn Marigold, or Yellow Ox-eye, not very rare in corn fields, and may be known at once by its entirely golden color.

FEVERFEW. *PYRETHRUM.*

COMMON FEVERFEW. *Pyrethrum Parthenium.*
Plate 13—*Fig.* 9.

Leaves twice pinnate, stalked. Flower stalks branched, growing into a corymb or head. Flowers yellow in the centre, white and short in the ray. Calyx downy. The plant is known for being a fine bitter medicine, useful for its strengthening properties. It grows in waste places and in hedges. *Fl. June & July*

O. S. Scentless Feverfew, which is common in many places.

WILD CHAMOMILE. *MATRICARIA.*

COMMON WILD CHAMOMILE. *Matricaria Chamomilla.*
Plate 13—*Fig.* 10.

In fields and on hedge-banks, almost everywhere, grows six or eight inches high. Flowers in August, though often

called Mayweed. The leaves are doubly and very finely cleft. Flower with a disk which projects upwards very much in the middle ; and a ray that is very obtuse, and toothed at the end. It has a very bitter taste, much like that of Chamomile ; some of the species of which it very much resembles in appearance.

CHAMOMILE. *ANTHEMIS.*

Common Chamomile. *Anthemis nobilis.*

Plate 13—*Fig.* 11.

This is the plant which, when cultivated, produces those double flowers that are so much used to make Chamomile Tea. The wild plant is equally proper for this purpose, and grows abundantly on all the barren, gravelly heaths in the South of the Kingdom, forming a turf of most beautifully green, rich foliage, with delicate white and yellow flowers, one only upon a stem, and by this last character it may be known from the other species. Its fragrance is emitted when trodden upon.

A fine June to Oct.

O. S. Sea Chamomile—Corn Chamomile—Stinking Chamomile, which is not uncommon in corn fields—and Ox-eye Chamomile.

YARROW. *ACHILLÆA.*

Sneezewort Yarrow. *Achillæa Ptarmica.*

Plate 13—*Fig.* 12.

Leaves simple, sharply serrated.

Leaves linear, serrate, pointed. Flowers wholly white, at the top of the stem, forming a corymb or flat loose head. Stem one or two feet high, very upright and thin, but stiff and rigid. It is called Sneezewort because the leaves when powdered are sometimes used instead of snuff. It grows on meadows and on heaths, flowering in August and September.

Common Yarrow. *Achillea Millefolium.*

Plate 13—*Fig.* 13.

Leaves very compound, and slightly hairy.

Leaves slightly hairy, cut into numberless fine and narrow divisions, whence it has the common name of " Milfoile, or Thousand Leaves." Stems furrowed, bearing at the top a large bunch of small white or sometimes red flowers. It is

used in many places as an application to fresh wounds which it much assists in healing. It is common in all meadows.

"Green Yarrow! nature's simplest child,
Thy leaves of emerald green,
And silvery blossom undefiled,
In rugged path or barren wild,
The traveller passes by.
With reckless glance and careless tread
Nor marks the kindly carpet spread,
Beneath his thankless feet.
So poor a meed of sympathy,
Do gracious herbs of low degree,
From haughty mortals meet."—STRICKLAND.

O. S. Downy Yellow Yarrow, a plant of the mountains of the North, and grown in the gardens as Golden Yarrow.

KNAPWEED, &c. *CENTAUREA.*

BLACK KNAPWEED. *Centaurea nigra.*

Plate 13—*Fig.* 14.

Leaves cleft. Flowers small, purple. Calyx scales black.

This grows over pastures and meadows very frequently. It is a very troublesome weed, commonly called *Hard-hack*, on account of its toughness, and blunting the mower's scythe so much where it abounds. The calyx is of many blunt, black scales, fringed with teeth, and lapped over each other, and the flowers all small, pink, and tubular—thus the heads of flowers appear like thistles. The leaves are without thorns, the lower ones lyrate, upper ones not so much cleft. It flowers in the hay season, and grows two feet high.

CORN BLUE-BOTTLE. *Centaurea Cyanus.*

Plate 13—*Fig.* 15.

Leaves linear, entire. Flowers blue. Calyx green.

A plant in every respect different from the last, that was inelegant, this is beautiful. It is abundant in corn fields, flowering all the Summer, and when its fine, large, blue flowers are seen in contrast with the scarlet Poppy, and the green or golden Corn, it forms the finest object.

"The blue Cyanus we'll not forget,
'Tis the gem of the harvest coronet."

CLASS 20.—GYNANDRIA.

(Containing Plants whose stamens are united with the style.)

Of all the classes this is by much the most interesting, both on account of the Foreign and British plants which it contains. Not that they are very important either for food or the arts—on the contrary, no very useful produce is extracted from them, but they strike and rivet the attention by the very uncommon and extraordinary forms their flowers assume. Here are all of the Orchis tribe, of which we have, more or less common, about forty species. All of these are highly curious, as their names alone will imply, these being given because of some real resemblance in shape, and often in size, with the objects they are called after. Thus we have the Bee Flower or Orchis, the Fly Orchis, the Spider Orchis, the Man Orchis, the Monkey Orchis, the Lizard Orchis, the Butterfly Orchis, the Bird's-Nest Orchis, the Coral-Root Orchis, and that beautiful but very rare plant, the Lady's Slipper. Some of the above are not very rare, being found mostly in woods and thickets. The formation of the stamens is highly curious. The pollen is found sometimes in powdery lumps, as in other plants, but more frequently it resembles little bits of bright yellow wax—these are two together, stalked, and furnished at the lower end with glands or swellings. The glands are in some species naked, but mostly concealed in one or two little pouches or bags, and according to these circumstances the genera are known.

Order 1. *MONANDRIA.* 1 *Stamen.*

ORCHIS *(Orchis.)* Lip of the corolla spurred; glands at the end of the stalks of the pollen masses, inclosed in one pouch.

OPHRYS *(Ophrys.)* Lip of the corolla not spurred; glands at the end of the stalks of the pollen masses, each in a distinct pouch.

TWAY-BLADE *(Listera.)* Lip of the corolla not spurred, two-lobed; pollen masses not stalked, and without glands.

ORCHIS. *ORCHIS.*

Early Purple Orchis. *Orchis mascula.*

Plate 13—*Fig.* 16.

Spur of the corolla longer than the germen.

Common in woods and pastures, where it may be seen flowering as early as the month of May, and sometimes even before, while its purple-spotted and dark green leaves may be found much earlier. The flowers are purple, in a spike one foot high, and often fragrant. The lower lip of the flowers is three-lobed, whitish or spotted. The two side leaves of the calyx bent backwards and upwards. The spur is blunt, and rather larger than the germen, or young seed vessel. Root of two tubers undivided, and the bracts which accompany the flowers are small.

Marsh Orchis. *Orchis latifolia.*

Plate 13—*Fig.* 17.

Spur longer than the germen. Lip scarcely lobed.

Scattered over moist meadows, flowering in June. It varies very much in color, has long, upright, green, pointed, but not spotted, leaves, with large, leafy bracts, much longer than the flowers, and the under lip of the corolla is very little, if at all lobed, by these marks it may be known at once; besides which the spur is shorter than the germen, the calyx leaves spread out widely, and the two side petals grow towards each other.

Spotted Palmate Orchis. *Orchis maculata.*

Plate 13—*Fig.* 18.

Spur ~~longer~~ shorter than the germen. Lip deeply lobed.

Very much like the last in character, growing in similar places, and flowering at the same time, but known from it by having the bracts very much smaller, the leaves generally spotted with purple, and the lip deeply three-lobed, the middle lobe being much the longest. Root of both species of two tubers, spread out like a hand.

O. S. Green-Winged Meadow Orchis—Dwarf Dark-Winged Orchis—Great Brown-Winged Orchis—Military Orchis—Monkey Orchis—Lizard Orchis—and Pyramidal Orchis.

OPHRYS. *OPHRYS.*

Bee Ophrys. Bee Flower. *Ophrys apifera.*

Plate 13—*Fig.* 19.

Although many hill-sides in the South of England are covered with the Bee Flower, it can scarcely be called common, but its great beauty, and singular form, entitle it to a place here, and its discovery will well repay the search for it. To see it growing you would suppose that three or four humble bees had settled upon a stem, rather than that they were flowers before you—so much does it resemble that busy insect. The lower lip of the flower looks and feels like velvet, is of an elegant brown, streaked with yellow, and swelled out, forming as it were a body. On the upper part of this are two small yellow lobes, which may be aptly compared to thighs loaded with honey: then again in the middle there is the stigma, with its bright yellow pollen masses, like a head and eyes—above this two narrow, fringed, pink petals, resembling horns, and to make the delusion still more perfect, the whitish and spreading calyx leaves is the flower upon which the mimic insect rests. It flowers in May and June.

I remember well when a child how ardently and long I sought for this flower, and when after some time I met it flowering and flourishing, along with some of its relations, on a sunny hill-side in Kent, none but a botanist can imagine my eager delight and gratification; and although many years have since passed, and far different pursuits than those of childhood have engaged my attention, yet even now I behold the Bee Flower with undiminished pleasure and admiration.

"Bright insect-seeming flower! Thou art indeed
Of thy gay family a curious child.
When first I met with thee, upspringing wild
Hard by the path, where did my footsteps lead
How caught with admiration did I stop,
And cull thee from amidst the grassy spires!

"One might have thought thou wert some vagrant bee,
Erst marked by Flora, settled on a stem.
Who, sportively, the quaint device to see,
Transformed the insect to a floral gem.
Still springing fresh, through all succeeding years,
Gay as thy sister flowers—bright as thy winged compeers!"

O. S, Late Spider Ophrys—the Common Spider Ophrys, and the Fly Ophrys, which much resemble the insects whose names they bear.

TWAY-BLADE. *LISTERA.*

COMMON TWAY-BLADE. *Listera ovata.*

Plate 13—*Fig.* 20.

A very curious, if not a beautiful plant, of very frequent occurrence in woods and meadows, growing a foot or more high. Its name Tway-blade, or Two Leaves, leads us to expect no more than this number—they are ovate or oblong in form, opposite to each other on the lower part of the stem; while on the upper part of it are numerous, scattered flowers, of a greenish-yellow color, without spurs, and attended by round, short seed vessels or germens, and short, very small bracts. The lower lip of the flower is two-cleft, and rather bent back. The other two petals smaller and narrow, and the three calyx leaves ovate, and not opening very wide. It flowers in May, June, and July. The pollen masses are in a crest or hood, in the upper part of the flower.

L. Cordata L. Nidus Aves

O. S. Heart-Leaved Tway-blade, and Common Bird's-Nest, so called from the root being of many fibres entangled together, like a bird's nest.

CLASS 21.—MONOECIA.

(Plants having some of their flowers with stamens only, and others flowers with pointals only.)

It was observed that the twelfth class contained most of our fruit trees—to this belong most of our timber trees, as the Alder Tree, the Box Tree, the Oak, the Beech, the Birch, the Chesnut, the Hornbeam, the Hazel, and the Pine or Fir. Here also are the Stinging Nettle, the White Briony, the numerous and difficult family of the Sedges, besides some curious water plants, as the Common Water Starwort, the Horned Pondweed, the Grass-wrack, the Pipewort, the Hornwort, and the Water Milfoile.

Order 1. *MONANDRIA.* 1 *Stamen.*

SPURGE *(Euphorbia.)* Calyx holding several flowers of one stamen each; and one pointal, with a three-cleft style.

Order 3. *TRIANDRIA.* 3 *Stamens.*

REED-MACE. BULL-RUSH *(Typha.)* Flowers collected into close round spikes.

BUR-REED *(Sparganium.)* Flowers collected into round heads.

Order 7. *POLYANDRIA. Many Stamens.*

ARROW-HEAD *(Sagittaria.)* Calyx three-leaved; petals three; pointals numerous.

CUCKOO-PINT *(Arum.)* Calyx a sheath of one leaf; flowers on a spike.

SALAD-BURNET *(Poterium.)* Flowers collected into heads; calyx four-cleft.

SPURGE, MILKWORT. *EUPHORBIA.*

SUN SPURGE. *Euphorbia helioscopia.*

Wartwort *Plate* 14—*Fig.* 1.

Stem simple, ending in five principal branches.

This is the well-known and common Milkwort, the white juice of which is used so often to cure warts. It is very poisonous as is the case with all the Spurges, and indeed all plants which have a colored juice are to be looked at with suspicion being most likely poisonous; some of them stupifying, as the Poppy and the Wild Lettuce; others like the present tribe very inflaming or acrid—a drop of the juice of any of the Spurges will blister the tongue and give a deal of pain, and the eating of a single plant might occasion death. The stem of this species grows a few inches high, and is divided near the top into five branches, each of them with a leaf under it, and spread out, like the spokes of a wheel, or star-like. Leaves rather wedge-shaped, round, and notched at the end. Capsule juicy, smooth, three-seeded. It is abundant in cultivated ground, flowering in July and August. The flowers of all the species are blended together, without separate coverings, and inclosed in a common calyx, often colored, so that each bunch appears like a single flower, of the eleventh class, and in this class the plants were formerly and are sometimes now placed.

PLATE XIV

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DWARF SPURGE. *Euphorbia exigua.*
Plate 14—*Fig.* 2.

Stem numerous, ending in three principal branches.

In corn fields, very common in July and August, and growing from four to six inches high. Leaves small, very narrow, without notches and smooth. Stem much branched at the base, each of these branches divides upwards in three other branches, and so on. Capsules nearly smooth.

WOOD SPURGE *Euphorbia amygdaloides.*
Plate 14—*Fig.* 3.

Stems double (generally) ending in six principal branches.

Larger and yellower than either of the former, with a stem nearly shrubby at the lower part, and mostly divided near the ground into two stems, which end upwards in about six principal branches. Leaves hairy beneath, ovate or lance-shaped, narrowed towards the base. Capsules minutely dotted. This is a common plant in the woods of England and flowers very early in the Spring and often in the Autumn also.

O. S. Purple Spurge—Broad-Leaved Spurge—Irish Spurge—Hairy Spurge—Leafy Branched Spurge—Cypress Spurge—Sea Spurge—Portland Spurge—Petty Spurge—Caper Spurge—and Red Shrubby Spurge.

REED-MACE. *TYPHA.*

REED-MACE. BULL-RUSH. CAT'S-TAIL. *Typha latifolia.*
Plate 14—*Fig.* 4.

Very common in ponds, lakes, and river-banks, growing five or six feet high, with a naked, round stem, bearing on the top of it a tapering spike of sessile, yellow flowers, all of them consisting of stamens only, without calyx or corolla, or pointals; close under this is another round close spike of flowers bearing pointals only, without calyx or corolla, but each of them surrounded by a quantity of brown pointed hairs, so that this noble-looking spike appears like a mass altogether of hairs, as large and even more closely set than those on a cat's tail, hence one of the names of the plant. The leaves all arise direct from the root, and are very long and narrow, it flowers in August and is one of the best examples to show the nature of the twenty-first class as the two sorts of flowers are so distinct from each other.

BUR-REED. *SPARGANIUM.*

BRANCHED BUR-REED. *Sparganium ramosum.*
Plate 14—*Fig.* 5.

Also a mud plant, growing in ditches, &c. flowering in July, but very different in appearance from the last. The stem is round and branched. The root-leaves are very long, sword-shaped, rather wide below, and hollowed out at the sides—the stem-leaves narrower and shorter, bracts still more so, both clasping the stem. Flowers collected in several distant round heads. Those with stamens on the upper part of the plant, those with pointals, below.

S. Simplex *S. Natans*

O. S. Unbranched Upright Bur-reed—and Floating Bur-reed, neither very rare. The last grows in such great abundance in the quieter part of the Thames as materially to impede the passage of boats, covering sometimes whole acres with its very long, narrow, thin leaves, but never seen in flower—this is here mentioned because very many good botanists have been puzzled to know the name of the plant alluded to.

Polyandria

ARROW-HEAD. *SAGITTARIA.*

COMMON ARROW-HEAD. *Sagittaria sagittifolia.*
Plate 14—*Fig.* 6.

Abundant in ditches and rivers, a fine and curious plant, growing two or three feet above the water, and producing large, white flowers, of three petals each, inclosed in a calyx of three leaves. Some of the flowers have very numerous pointals, collected into a head. Leaves, when under water, long and strap-shaped, but as soon as they rise above the surface, the lower part of them becomes rounded into a foot-stalk, and the upper part expanded, until it becomes perfectly arrow-shaped. It flowers in July and August.

CUCKOO-PINT. *ARUM.*

CUCKOO-PINT. WAKE ROBIN. *Arum maculatum.*
Plate 14—*Fig.* 7.

This plant not only deserves but receives universal attention, on account of its very peculiar structure. The leaves are spotted, all from the root, and somewhat arrow-shaped, but not exactly so. They rise from the ground very early in the season, and soon after they have expanded, that is, in April or May, there appears amongst them, a long, upright,

light green sheath, which is rolled up, and at the lower part swelled out, and joined to a short, thick, fleshy stem—gradually this sheath unfolds, and then displays one of the most singular looking, club-shaped bodies. The upper part of this is like velvet, and of a pink, or more commonly mulberry color, growing darker as it gets older, a little lower down is a belt of imperfect stamens, then another belt of two-celled anthers or true stamens, and below these at a little distance a belt of germens or young seed-vessels. After a time the upper part of the spike and the sheath dies away, and the germens grow into a cluster of most beautifully scarlet berries, which remain all the winter. These are poisonous and so are the leaves, but if the root be properly dried it makes a very nutritious food, and as such it is used by the people of Portland Island on the Coast of Devonshire. They also grind it into a flour, when it is sold under the name of Portland Sago. Children call the plant Lords and Ladies.

grows in bushy places, hedges & the borders of fields —

BURNET. *POTERIUM.*

COMMON BURNET. *Poterium Sanguisorba.*

Plate 14—*Fig.* 8.

A very beautiful and common plant, growing upright, with one or more branched, leafy stems. Flowers purplish, in heads, with fine red, drooping stamens, thirty or forty in number. Calyx four-cleft. Corolla none. Pointals two, only found in the upper flowers. Seed-vessels two, each one-seeded. The leaves taste and smell like Cucumber, and are sometimes eaten in Spring salad; they clothe the stem and grow around in a tuft from the root, are of an elegant, pinnated form, composed of many pairs of oval, serrated leaflets, the various pairs diminishing in size as they are farther from the point. Flowers usually in June, but as it is constantly eaten off by the sheep it throws out flowering stems at almost every season.

grows in dry pastures

CLASS 22.—DIOECIA.

(Flowers having stamens, and those having pointals upon different plants.)

A small class, but rather an important one, as among foreign plants many valuable ones here have place. Our Islands can boast of about seventy species of the Willow, some of the Poplars, the Crowberry, the Butcher's-broom, the Misseltoe, the Sallow-thorn, the Sweet Gale, which is often called English Myrtle, the Hop, the Rose-root, the Frog-bit, the Juniper, and that emblem of sorrow, the Yew Tree.

HOP. *HUMULUS.*

Common Hop. *Humulus lupulus.*

Plate 14—*Fig.* 9.

Belongs to the fifth order, Pentandria, there being five stamens.

This is a rough climbing plant, very common in rich ground, covering the hedges in the Summer (July) with its flowers, and in the Autumn with its curious, scaly clusters of seed. There are here, as there must be in all of this class, two plants, one producing flowers with stamens only, the other flowers with pointals only, and as these last alone produce seed, they are called fertile flowers, and the other barren flowers. The two sorts are in this instance very different in appearance—the barren flowers are in large, loose bunches, something like the blossoms of the Lilac, each flower with a five-leaved calyx. The fertile flowers are in short, nearly round heads or catkins, formed of hollow scales, folded over each other—each scale is a flower, covering two styles, and producing one round seed. The roots are very long and creeping. The stem rough, very long, and twisting round any support near it. Leaves stalked, rough, three or five-lobed, and serrated. Flowers appearing in July, and seeds ripe a month or six weeks afterwards. The fertile plant is very much grown in many parts of England for the sake of its heads of seeds, which are the material so valuable to the brewer, their bitter principle preserving beer from becoming sour. All the young shoots and leaves were formerly brought to market, and eaten as a Spring vegetable. They are said to be very nice, and much like asparagus in flavor.

MERCURY. *MERCURIALIS.*

DOG'S MERCURY. *Mercurialis perennis.*
Plate 14—*Fig.* 10.

Abundant on rubbish heaps, and in gardens, growing perhaps a foot high. Stem not branched. Leaves mostly on the upper part of it, rough, ovate, stalked, serrated. Flowers green, in short, loose spikes, in a three-cleft calyx. The barren flowers have from nine to twelve stamens. The fertile flowers two-styles. Capsule two-celled, with the cells one-seeded. The whole plant in drying becomes of a bright blue color. fl. April & May

O. S. Annual Mercury, found about London, but not common.

CLASS 23.—POLYGAMIA.

(Stamens and pointals sometimes in separate flowers, at other times together.)

This character is only found in one genus of British plants, called

ORACHE. *ATRIPLEX.*

HALBERT-LEAVED ORACHE. *Atriplex patula.*
Plate 14—*Fig.* 11.

A straggling weed, with halbert-shaped, smooth, toothed leaves, and very small, greenish flowers, in little bunches, scattered over the numerous, long bunches. It may be found in flower all the latter part of the Summer, everywhere on waste ground. fl June & July

NARROW-LEAVED ORACHE. *Atriplex angustifolia.*
Plate 14—*Fig.* 12. fl in July

This, which is quite as common as the last, does not differ from it in any respect, but in having narrower leaves. When either of these grow on the sea shore their leaves become thicker and downy. A Portulacoides A laciniata A Erecta

O. S. Shrubby Orache, or Sea Purslane—Frosted Sea Orache—Spear-Leaved Orache—Grass-Leaved Sea Orache—and Stalked Sea Orache.
A Littoralis A Pedunculata

CLASS 24.—CRYPTOGAMIA.

(Stamens and pointals none.)

All those plants which never bear flowers, (and this is a very great number,) are called Cryptogamic. They are totally different in their structure from all the flowering plants, and in the description of them various terms are used, that are not necessary elsewhere. Their stems are without any thing like wood. The vessels that supply the sap are very imperfect, and in most of them there are no vessels at all, but the whole plant is a collection of cells or little bags. The seed vessels are called *thecæ*, and the seeds *spores*—they differ from seeds in being able to grow from any part of their surface, and not from one particular point alone. They are divided into several orders, named from the nature of the plants themselves, as Ferns, Mosses, Sea Weeds, Lichens, and Fungi. (For an account of some of them see the Appendix.) The first order, the Ferns, is too much sought after to be passed so hastily, but deserve to be included in our general design.

THE FERNS. *FILICES.*

Are among the most graceful and elegant plants; their leaves (fronds) are in some cases entire, in others most beautifully divided, and all of them coiled up before opening in a very curious and singular manner, the effect of which is often increased by the main stem being covered thickly with hairs or scales. The seed cases or thecæ are borne in different-shaped clusters, mostly on the under side of the frond, sometimes with, and sometimes without, a cover over them. These thecæ are worthy of the most careful inspection—by the naked eye their wonderful form and structure is not seen, but under a miscroscope they will be found to consist of a round or oval bag, with a very elegant, jointed band round it. As the seed ripens the band becomes elastic, and at last flies out, and splitting the thecæ to pieces at the same time, with great force; the seeds are jerked by the sudden motion to the distance of many inches.

POLYPODY *(Polypodium.)* Seed vessels without a cover.
SHIELD FERN *(Aspidium.)* Seed vessels round and covered.
SPLEENWORT *(Asplenium.)* Seed vessels long and covered.
BRAKE *(Pteris.)* Seed vessels along the edge of the frond.
HARD FERN *(Blechnum.)* Seed vessels along the middle of each lobe of the frond.

POLYPODY. *POLYPODIUM.*

COMMON POLYPODY. *Polypodium vulgare.*
Plate 14—*Fig.* 13.

In some parts of the Kingdom this is very abundant, and scarcely anywhere rare. Found at all seasons of the year on walls, trees, &c. Its frond (all of it above the ground is thus called) is like a stalked, large, oblong pinnatifid leaf, that is cut down near to the mid-rib on both sides many times. The seed is in little round yellow spots, in two straight rows upon each division or lobe of the frond. The root is creeping and hairy.

O. S. Wood Polypody—Tender Three-Branched Polypody—and Rigid Three-Branched Polypody.

SHIELD FERN. *ASPIDIUM.*

MALE FERN. *Aspidium Filix Mas.*
Plate 14—*Fig.* 14.

A large robust plant, and therefore called the Male Fern, growing with a number of fronds around the crown of the root, and when these are young they form a very beautiful ball of rolled-up leaves—these expand by degrees, unrolling themselves till the whole resembles a large shuttlecock, with the fronds two or three feet high, with hairy stems, and divided first into a great number of leaflets or pinnæ, as they are called, and these deeply cut into lobes. The lobes on the upper part of the frond have each from two to six round spots of seed, defended by a round cover over them, and like all the rest of the Fern tribe they may be found all the Summer. This species dies down to the ground every Autumn and puts out fresh fronds every Spring.

Miss Twamley in the Romance of Nature alludes to it thus. Her remarks are pretty, and will apply to some other species.

"The green and graceful Fern,
How beautiful it is,
There's not a leaf in all the land,
So wonderful I wis.

Have ye ere watched that ball unfolding,
With each stem and leaf wrapped small,
Coiled up within each other,
Like a round and hairy ball.

Have ye watched that ball unfolding,
Each closely nestling curl,
And its fair and feathery leaflets,
Their spreading forms unfurl.

Oh then most gracefully they wave,
In the hedges like a sea,
And dear as they are beautiful,
Are those Fern-leaves to me."

O. S. Rough Alpine Shield Fern—Close-Leaved Shield Fern—Common Prickly Shield Fern—Marsh Shield Fern—Heath Shield Fern—Crested Shield Fern—Rigid Shield Fern—and great Shield Fern, the last not uncommon.

SPLEENWORT. *ASPLENIUM.*

Wall Spleenwort. *Asplenium Trichomanes.*

Plate 14—*Fig.* 15.

Frond pinnate. Leaflets opposite, round, scolloped. Stem black.

A little, stiff, curious plant, now and then found on walls, with many fronds, growing three or four inches high, with a black, smooth stalk up the middle, and often as many as twenty or thirty pair of ovate leaflets up the sides of it. On the under side of each of these are from two to six long spots of dark brown seeds, covered at first with a whitish skin, which is fastened on one side of each of the spots, but afterwards, as the seeds grow, this cover is bent so far back by them that it is scarcely visible, and thus the whole back of the leaflet appears covered with seeds.

Wall Rue. *Asplenium Ruta-muraria.*

Plate 14—*Fig.* 16.

Frond twice pinnate. Leaflets alternate, wedge-shaped, notched at the end.

From one to four inches is about the height of this little Fern, which grows on walls and ruins. The stalk has no

leaflets on the lower part of it—upwards it has three or five leaflets, which are again divided into others of a rounded or wedge-shape, with long spots of covered seeds, like those of the last species.

BLACK MAIDEN HAIR. *Asplenium Adiantum-nigrum.*
Plate 14—*Fig.* 17.

Frond thrice pinnate. Leaflets alternate. Stem winged, black.

On walls and rocks from four to eight inches or more high, of a dark green color and stiff. The stem is smooth, has no leaflets on the lower part of it, but above this is furnished with double-cleft leaflets, placed alternately upon it, and those nearest to the main stem by much the largest. It is a fine shining, beautifully-formed plant, with large long spots of dark brown seed, which very often cover the whole back of the frond when old, and when young showing very plainly their long, white covers.

FEMALE FERN. *Asplenium Filix-Feminæ.*
Plate 14—*Fig.* 18.

Fronds lance-shaped, twice pinnate. Leaflets tapering, pointed.

A most elegant and lovely plant, so much so indeed as to be called the Lady Fern, or in some places the Fairy Fern. Its place of natural growth is well described by Sir W. Scott, who says—

> "Where the copse-wood is the greenest,
> Where the fountain glistens sheenest,
> Where the morning dew lies longest,
> There the Lady Fern grows strongest."

It grows two feet or more high, and is quite smooth in every part. Its stem has along it, on both sides, thirty or forty pair of tapering, pointed leaflets, long near the middle of the frond, but shorter towards the point, and also near the root. The leaflets are again divided into lobes, and those are scolloped at the edges and pointed. The sori, that is the masses of seed, are small, kidney-shaped, and always distinct from each other.

O. S. Forked Spleenwort—Alternate-Leaved Spleenwort—Sea Spleenwort—Green Spleenwort—Smooth Rock Spleenwort, and Lanceolate Spleenwort.

BRAKES. *PTERIS.*

Common Brakes. *Pteris aquilina.*

Plate 14—*Fig.* 19.

This can live and thrive almost everywhere, thus it may be seen on all commons, and in all parks and preserves—in lanes, in forests, and on mountains, though not at any very great height on them. Its roots creep along to some distance. Its stem is stiff, as thick as a child's finger, smooth, and without leaflets at the lower part, but the upper part of it is clothed with many, which become larger and more divided, from the point of the leaf downwards. The seed is in one long line that runs round the edge of all the leaflets and lobes. It grows three or four feet high, and is used for various purposes—in some places as fuel, sometimes for fodder, and very often cherries are packed in it, and thus are sent to the London markets. The places where it grows are much frequented by the deer—though neither they, nor any other animal, are fond of any species of Fern as a food. The seed is exceedingly minute, and scattered by the smallest touch, and yet it seldom grows, for although a common may be covered with plants, and each of these produces *millions* of seeds, yet we very seldom find a young plant springing up.

"The Ferns are waving all statelily here.
With seed-stored fronds thickly laid,
And shedding when hastily brushed by the deer.
Their light, fertile dust o'er the glade."

HARD FERN. *BLECHNUM.*

Common Hard Fern. *Blechnum boreale.*

Plate 14—*Fig.* 20.

To be seen often on the damp part of sandy commons and in ditches, with pinnatified, lance-shaped fronds of two sorts, those which are without seed are shorter than the others and their divisions wider. The fertile fronds have their divisions very narrow, and wholly covered with seeds on the under side; they are also of a darker color and grow taller, and mostly about the middle of the plant. It grows about a foot high.

Note.—The Ferns are to be dried the same as other plants. In gathering them be careful to take the whole frond, from the root upwards, as many of them are scaly at the lower part of the stem, and no where else, and this is of consequence to be observed. If the fronds should shrivel up before they are put between the paper to dry, they may be placed under water for an hour without injury; this will expand them again.

APPENDIX.

In the foregoing pages no account has been given of several families of plants, although some of them are as common as those described. These have been omitted either because they are such as do not so often attract the attention of the young botanist, or such as are too difficult for his first attempts. Such are the Grasses, the Sedges, and the Rushes; the Umbellate plants; the Trees; the Water plants; the Orchis tribe; &c.

As my object is to describe *all* the common plants, it is right to make a few remarks upon each of these in turn. It may be more delightful to gather the gayer flowers, yet a true botanist will collect all, and if he cannot assign to each specimen its proper specific name, he will very soon learn to what classes, orders, and genera each belongs, and thereby greatly increase his general knowledge of their names and properties.

GRASSES. *GRAMINA.*

With the exception of one common species, which is the Sweet-Scented Vernal Grass, *(Anthoxanthum odoratum,)* all our native Grasses belong to Triandria. "They seem particularly the objects of nature's care, with these she clothes the earth, their seeds sustain its inhabitants, and a great part of the animal world is supported upon their leaves. Being thus necessary for our existence, (for here are included all kinds of corn,) nature has made them thrive under treatment by which other plants are destroyed, the more their leaves are consumed the thicker their roots increase, the more they are trodden upon the faster they grow."

They may for our present object be divided into three sections. First—those Grasses which bear their flowers in spikes,

among which are the MEADOW FOX-TAIL GRASS, (*Alopecurus pratensis,*) a plant two feet high, which has a smooth, round spike, covered in the hay season with purple, orange, or yellow stamens—this is the greater part of hay fields. The MAT-GRASS, (*Nardus stricta,*) a small, harsh plant of the commons, having a thin, narrow spike, with the florets all turned one way. The CAT'S-TAIL GRASS, (*Phleum pratense,*) a green, hard, round spike, with few stamens; abundant in meadows. The WALL BARLEY, (*Hordeum murinum,*) the spike covered with long, stiff bristles. This is the grass that boys put up their sleeves, in order that it may crawl to the shoulder. This it does by means of the awns or bristles, which are furnished with teeth, like a saw; thus, with every motion they move the same way—because the teeth prevent their returning, though not their going forward. COUCH GRASS, or CREEPING WHEAT-GRASS, (*Triticum repens.*) This is the troublesome Grass, with long, jointed, white roots, which farmers and gardeners are so anxious to destroy. Its leaves are so loaded with *flint,* that their edges are sharp enough to cut the mouth when drawn through it, the florets are on two opposite sides of the spike. The SEA WHEAT-GRASS, (*Triticum junceum,*) is a whitish-green Grass, common on the sea shore. The RYE GRASS, (*Lolium perenne,*) found everywhere on banks and in meadows, often grown with Clover. It has a fibrous root, and florets, distant from each other, on opposite sides of the spikes. The DOG'S-TAIL GRASS, (*Cynosurus cristatus,*) with a thick, stiff spike of short florets, all turned one way. Of the tufted-headed species, we have the common COCK'S-FOOT GRASS, (*Dactylis glomerata,*) this is branched at the top, and the florets all collected in thick bundles. Of the loose-headed Grasses there are the QUAKE GRASS, (*Briza media,*) this has a head of very fine, hair-like branches, with a small, wide spikelet at the end of each—altogether so delicate that it is always in motion, and so called TOTTER GRASS, or SHAKING GRASS. The SOFT GRASS, (*Holcus mollis,*) which has numerous small florets, all white with down. The STERILE BROME GRASS, (*Bromus sterilis,*) with a very wide-spreading head, and a long spike of awned florets at the end of each

branch. The REED, (*Arundo Pragmites,*) cultivated by acres on the banks of rivers, and growing wild in such places. Two or three sorts of Meadow Grass, one of which is the ANNUAL MEADOW GRASS, (*Poa annua,*) so great a nuisance as a weed in gardens, and growing everywhere. There are also two or three of the HAIR GRASSES, (*Aira,*) so called for their delicacy. The BROWN BENT GRASS—the FINE BENT GRASS—and the MARSH BENT GRASS, all are common.

THE SEDGES. *CARICES.*

Are coarse, hard, grass-like plants, growing chiefly in wet places, and belonging to the twenty-first class. None of them are liked by cattle, not used in the arts, nor yet is there any thing in their appearance to make them regarded as plants of ornament. Their flowers are borne in spikes, sometimes the same spike contains both sorts of flowers, but more frequently at the top of the plant are spikes of flowers with stamens only, and under these, other spikes of flowers with pointals only.

THE RUSHES, &c. *JUNCI, &c.*

These belong to the sixth class. Many are common, and extremely useful. They are generally without leaves, consisting of a number of upright, round, pithy, smooth stems, and their flowers are borne in bunches on the side of these stems. The SHARP RUSH, (*Juncus acutus,*) and the SEA RUSH, (*Juncus maritimus,*) grow on the sea shore, and on the banks of rivers, where they are very useful, on account of their roots keeping the earth firm, so that the water cannot wash it away, and in Holland they are often planted for that purpose. The BULRUSH, (*Juncus palustris,*) grows in ponds and rivers, several feet high, and is used to bottom chairs, to make baskets and matting, and by coopers to put between the joints of casks to prevent leakage. The COMMON RUSH, (*Juncus conglomeratus,*) and the SOFT RUSH, (*Juncus effusus,*) are used for the wicks of rush-lights, and the Chinese

make window blinds of the same species. The following have leafy stems—the SHARP-FLOWERED RUSH, (*Juncus acutiflorus,*) grows in wet places, two feet high, with a jointed stem, and three or four leaves upon it. The TOAD RUSH, (*Juncus Bufonius,*) is a very small species, growing in barren places, with one leaf upon the stem, and HEATH RUSH, (*Juncus squarrosus,*) a very stiff plant, with a tuft of leaves on the ground, and an upright, flowering stalk in the middle.

UMBELLATE PLANTS. *UMBELLIFERÆ.*

The Umbellate Plants are such as bear their flowers on stalks, which spread out from each other like the ribs of an umbrella, and therefore called an umbel. Many of these plants are very poisonous, particularly those that grow in damp places; the seeds of all of them are however harmless, and several pleasant and serviceable—thus we eat the seeds of the Carraway and of the Coriander; these are both British plants, but rare. Others are used for their roots, as the CARROT, (*Daucus Carota,*) which grows wild in almost all dry chalky, gravelly, or sandy places. The Parsnip too, (*Pastinaca sativa,*) is almost as common, it has yellow flowers, which few of this tribe have. The CELERY, (*Apium graveolens*) is often found, and in a wild state is poisonous. The FOOL'S PARSLEY, (*Æthusa cynapium,*) is another poisonous species, common on rubbish, in fields and in gardens, its leaves are dark green and very finely divided, and under each small umbel of flowers are three long very narrow leaves, which droop down; by this it may be at once known. The WOOD ANGELICA, (*Angelica sylvestris,*) is a large plant with a very large puffed-out sheath to its leaves. The COW PARSNIP, (*Heracleum spondylium,*) is another very large plant of frequent occurrence. The SHEPHERD'S NEEDLE, (*Scandix pecten,*) is found in corn fields and has very long beaks to the seeds. There are many other species not by any means rare. All the Umbellate plants belong to the second order of the Linnæan class Pentandria, and to the same natural order Umbellatæ.

TREES. *ARBORES.*

Trees are such interesting objects to the planter, add so much to the beauty of scenery, are of such high importance in the arts, and conduce so much to our comfort, both for the fruits they yield and the timber which their trunks and branches produce, that whole volumes and even series of volumes have been written on them. "Gilpin's Forest Scenery," "Woodland Gleanings," and "The Spirit of the Woods," are among those which must be read by all with delight and instruction, and yet to the botanist they are of little regard, and their characters but little studied. The timber trees are particularly neglected, their flowers are for the most part catkins, without beauty, and borne at that very early season of the year when fireside pleasures are more in request than those which lead to outdoor rambles. The frequency of the more common, and their general appearance, makes them pretty well known, thus the Hazel Nut and the Apple Tree, the Cherry and the Plum need but little description. The Timber Trees also are known to every gardener and husbandman, and although to ask such persons to point out particular kinds is scarcely consistent with science, yet space will not permit each to be described here. Besides the above-mentioned we have five or six species of the Elm, also the Sycamore, the Maple, the Ash, the Medlar, the Mountain Ash, the Lime or Linden Tree, the Alder, the Box, the Beech, the Birch, the Chesnut, the Hornbeam, no less than seventy species of the Willow, the dark and gloomy Pine, which covers Scotland's barren hills, and the knotted Oak, England's boasted tree, with which our noblemen adorn their parks, and which, after ages of growth, yield that tough and almost imperishable timber so valuable in the construction of our machinery and our shipping.

> "From a small acorn see the oak arise,
> Supremely tall and towering to the skies,
> King of the groves, his stately form he rears,
> His bulk increasing with increasing years,
> Now moves in pomp majestic o'er the deep,
> While in the hulk Britannia's thunders sleep,
> With fame and conquest graces Albion's shore,
> And guards the Island where he grew before."

WATER PLANTS.

Those alone are with propriety called Water Plants which live in the water without any contact with the earth, or which use their roots only to keep them firm in their situation. Two such as these we have already described. (The Water Lilies, Class 13.) Of others, we have native, the Duck Weeds, (Lemna, Class 2,) so well known as covering ponds and ditches,—one is very small, (*Lemna minor*)—this is the most common. Another species, (*Lemna polyrrhiza*,) is larger and purple underneath. *Lemna gibba* is between these two in size and quite thick, the under surface being puffed out — it is not quite so common as the last two. *Lemna trisulca*, or the Ivy-Leaved Duck Weed, is now and then found in similar places. The Pond Weeds, (Potamogeton, Class 4,) are a very numerous family. Several are common, and throng most streams and ditches, floating under water, and bearing flowers in spikes. There are a few more Water Plants in the twenty-first class, but these are scarcely common enough to be more than alluded to.

HORSE-TAIL. *EQUISETUM.*

(Also, Club-Moss, *Lycopodium.*)

The Horse-Tails and the Club-Mosses are called allies to the Ferns though very different in form. The latter tribe are not common, except in mountainous countries—nor is there any thing remarkable in their appearance, as there is in the Horse-Tails. These have all hollow stems, with a certain number of channels outside. They are set with joints, and from the joints grow sheaths, having exactly as many teeth on the top of them as the channels of the stem—sometimes there are no branches, but when there are, the number of them also agrees with the channels, besides which they are set in whirls around the various joints. The seed is borne in very beautiful, oblong heads, formed of little rings of shields, placed close together. The shields are formed of a number of bags, full

of the most minute seeds, which when ripe escape from an opening on the under side. The seeds are in the highest degree curious. They are oval, and furnished with four long, knobbed threads each, that are at first twisted round them tightly; but when the seed drops, and becomes damp, the threads unfold themselves, and standing out in various directions they become like four legs, raising the seed up, so that it looks like a four-legged stool. The stool contracts, or stretches out at every change of weather, and by this singular means the seed crawls along to a distance from its parent plant.

The following species are common, LARGE WATER HORSE-TAIL, (*Equisetum fluviatile,*) which grows in damp places, and bears its seeds in heads, on the tops of pale-colored, jointed stems, that rise early in the spring—and afterwards tall fronds without leaves, but jointed, and about thirty branches from each joint, set in whirls. The CORN HORSE-TAIL, (*Equisetum arvense,*) which bears its seed like the last, but trails along the ground, and the barren fronds have about twelve branches at each joint. MARSH HORSE-TAIL, (*Equisetum palustre,*) which grows in marshes, has few branches, very large sheaths to the stem, and the head of seeds on the top of it. The head of seed of this species is easily found, and well worth attention, for its shows the nature of all of them.

THE MOSSES. *MUSCI.*

There are natives of our island more than four hundred different sorts of Moss, and they are most elegantly-formed plants, though so small that some of them can scarcely be seen. They have leaves, stems, roots, and capsules to hold their seeds. These capsules are seen under the microscope to be the most perfect and curious objects. When young each one is covered with a little hood, shaped like an extinguisher, which defends it from the injury of the wet. Under this there is found another cap, serving as a cover, and preventing the seed from falling out. This being removed there is seen around the top of the capsule, a certain number of most

beautifully-formed and brilliantly-colored teeth, either single or in pairs, at first standing across the mouth, but afterwards spreading out from the rim, like a star, and yet too small to be seen by the naked eye. It is from these chiefly that the Mosses are divided into genera. It is a very remarkable fact, that the number of teeth is always four or eight, or sixteen, or thirty-two, or sixty-four, and never any of the numbers between them.

The Mosses flourish chiefly in that season, when all the flowering plants are taking their winter's rest. Then, amid frost and snow, we may discover most of these little objects, flourishing upon the walls—upon the bark of trees—and upon the barren ground.

The most common Mosses are the Bog Moss, (*Sphagnum,*) the stem of which grows very long, with white leaves—it is found in summer. Earth Moss, (*Phascum,*) found on barren ground in the winter—it is exceedingly small, not a quarter of an inch high altogether. Some of the Beardless Mosses, (*Gymnostomum,*) are often found on walls, and on the ground. These grow in tufts, with abundance of capsules, which have no teeth around the top of them. The *Grimmia pulvinata* grows on walls, and looks like a little, hairy pincushion, with capsules scattered about it, the mouth of which has sixteen teeth. Of the Fork Moss, (*Dicranum,*) there are two species, common on the ground. One, (*D. heteromallum,*) is very minute, but grows in large patches. The other, (*D. scoparium,*) grows in damp places, some inches high, with long, thin, bent capsules, upon long stalks; and leaves more than a quarter of an inch long—there are sixteen teeth round the capsule joined together in pairs. Tufts of the Screw Moss, (*Tortula,*) abound on every wall. The capsule is upright, very thin, and with its thirty-two teeth twisted together like a screw. *Polytrichum commune* is one of the commonest, as well as one of the largest species on waste grounds—its hood is very hairy—its capsule thick, with a row of thirty-two or sixty-four teeth, and a membrane besides within these. One or two more of the *Polytrichums* are not rare—particularly the waved-leaved one, a small one, and another whose leaves have a hair at the end of each. The

Cord Moss, (*Funaria hydrometrica*,) is often to be found in gravel pits, and such places, in the Summer time. This bears a curved capsule, on a crooked stalk, an inch long. This stalk has a very curious property, when the plant is dry and the stalk is wetted near the top, the capsules turn round one way, and when it is wetted near the bottom they turn round the other way. The Thread Moss, (*Bryum.*) is a very numerous and beautiful family. The most common and one of the smallest is the Silver Bryum, which has white, silver-like leaves, and drooping capsules, with two rows of teeth, sixteen in each—to be found on banks and walls in April. All the Thread Mosses have the stalks of their capsules growing out of the very top of the plants.

The Water Moss, (*Fontinalis,*) is abundant under water in rivers and ponds—it grows two or three feet long, and seldom is found in fruit. And last, the very beautiful family of the Feather Mosses, (*Hypnum,*) some of which are found everywhere. Their stems are mostly branched, covered with leaves, and with long-stalked capsules growing out of the sides of the stems; one very common species is used to pack things in, to make baskets, and so on; it is the Three-cornered Hypnum *(H. triquetrum.)* Another of them is used by anglers to keep worms in, and by gardeners to bind round the roots of plants when they are removed to a distance, this is either the last or *Hypnum purum*. There is another exceedingly beautiful and shining species, the branches of which spread out like a feather, this is the *Hypnum proliferum*, and is used for ornamental purposes, as by bird-stuffers, &c.

The unfortunate Mungo Parke was once sitting solitary, toilworn, and despairing on a barren rock, in the interior of Africa, when he was assured and comforted, by seeing growing on the naked stones a minute Moss, which he recognized as one of his own dear native land—in joy he hailed it as a proof of the fostering care of Providence, even in a sandy and pathless desert. The following are thoughts suggested by the circumstance:—

> "Oh! lovely plant, what care, what power,
> In thy fair structure are displayed,
> By Him who reared thee to this hour,
> Within the forest's lonely shade,

"Thy tender stalks, and fibres fine,
Here find a shelter from the storm:
Perhaps no human eyes but mine,
E'er gazed upon thy lovely form.

"He that formed thee, little plant,
And bade thee flourish in this place.
Who sees and feels my every want,
Can still support me with His grace."

LIVERWORTS. *HEPATICÆ.*

These are very curious in structure. The most common is *Marchantia Polymorpha*, and this grows equally on the ground, on banks, on rocks, and on walls. First there appears a green patch, like a small, fleshy leaf laid on the ground, this has little cups upon it full of grains, like seed—then after a time rises a stem, about an inch high, which soon spreads out at the top, like a little parasol. The edges of this soon break into rays, which turn upwards, and then it looks like a mural crown, or a many-pointed coronet. The most numerous tribe, however, are the *Jungermanniæ*—of these we have about seventy species, most of them rare—one of them *Jungermannia dilatata* grows in large patches on trees, where in the Winter time it is sure to be found in almost any old orchard or wood. These plants are particularly worth notice for their beauty and wonderful form. Though some of them are so small as to be nearly invisible, yet every part is highly curious. The leaves of some species are round, others square; flat or cupped; entire or notched and toothed in various ways; some are winged, or horned, or forked; some shaped like a wedge, others like a pair of pincers, others like an extinguisher, some like a mitre, and some like a cup. And the fruit vessel is as curious; before it opens it is round, when ripe it splits into a perfect cross, and lets out its curious round seeds attended by a number of threads like springs, which flying out suddenly, scatter the seeds around. A beautiful and wonderful contrivance for the preservation of plants, some of which are even too small for sight; thus in the lower and most minute tribes of plants we find displayed the same care and the same wisdom that we witness in the structure of the mightiest trees of the Eastern forest.

LICHENS. *LICHENES.*

These are distributed over the whole surface of the globe, from the hottest parts of the Tropics to the limit of perpetual snow in Spitzbergen. These little plants first clothe the naked rock; some of them almost too small for vision, unless accumulated in myriads, are yet the simple agents employed to change the rocky mountain into the waving forest, or the sandy desert into the fruitful province. So slow is the process at first that many years must elapse before the newly-erected edifice becomes even grey with age, or in other words puts on the first clothing of vegetation. After this the progress of vegetable life is more rapid. The Lichens in their decay leave a little earth where a green Moss soon springs up; this collects more earth, and a Fern or a Grass, or some other plant succeeds; and thus a bed of flowers arises even upon the barren cliff and the mouldering wall; but not here only are the Lichens found, the earth abounds with various species, and on the trunks of trees they are still more numerous. Their structure is very simple, some of them are like a bunch of hairs, or a knot of green tape; others cup-shaped, or club-shaped; but the greater part a mere stain or color, upon various objects, or else spreading about like a growing leaf. The seeds are found in little cups or knobs, seated upon different parts of the leaf, or as it is called, the thallus.

The most common species are *Licidia murorum*, a fine orange patch on walls and tiling, bearing its fruit in very numerous cups upon it. *Peltidia canina* grows in dark green patches upon the ground among grass, having its seeds in brown batches around the edge of the thallus. *Evernia prunastri* which is a small tuft of short, branched, light green, flattish threads, seldom seen in fruit. *Cladonia rangiferina*, a tufted, much-branched, white Lichen, growing among short grass, and bearing seed in black spots upon all the branches, this is the Reindeer Moss, which covers whole countries in the North, and affords a wholesome and almost the only food of the Reindeer of Lapland. It covers almost all our heaths—and the Cup Lichen *(Scyphophorus pixidatus)* this is al-

most everywhere, and at all seasons, looking like an extinguisher stuck into the ground by its point, very often from the edge of the cup thus formed a second cup grows, and this bears the fruit at the top of it, of a brown color; the thallus or other part of the plant is of a whitish-green color.

NOTE.—The last orders require but little care in drying. The Lichens may be left in the sun or the air for an hour or two, and then placed upon paper with a little gum water. Should you wish to separate a Lichen from a stone or tree, it is necessary to wet it first, that it may not be so liable to break to pieces, but even then it is often a very difficult matter.

SEA WEEDS. *ALGÆ.*

Under the name of Sea Weeds is included all Water Plants, (except two Ferns and three or four Mosses,) which do not bear flowers. Thus some of them are found in the inland ditches and ponds. To distinguish one from the other these are called Fresh-water Algæ, and those growing in the sea are called Marine Algæ. The structure of all of them is very simple, their fruit or seed is borne generally in little swellings, either within the frond or on the edge of it, though sometimes they bear no seed at all—but the plants are increased by breaking into pieces, when each piece grows. Some of them are of the most elegant forms, and all the smaller kinds are the finest possible objects for the miscroscope, showing many wonderful contrivances and singular arrangements of simple cellular matter, (for no vessels can be distinctly discovered in any of them.) Of the Marine Algæ the most common are the GREAT STRAPWORT, *(Laminaria,)* with its dark green frond, three or four feet long. The BLADDERWORT, *(Fucus vesiculosus,)* with its branched, dark green, leather-like frond, covered over with large, round blisters, full of a slimy juice when fresh, and which, when dry, crack with a pop as they are trodden upon—this is the commonest of all. The SERRATED BLADDERWORT, *(Fucus serratus,)* with all the branches of the frond toothed—this is nearly as frequent on all our coasts. There is a beautifully delicate, red, feathery one, often collected and used for ornamental work—this is the

Plocamium coccineum; and another, with a number of lance-shaped, thick, dark red leaves, growing from a root, and their edges surrounded by thick hairs—this is the *Delesseria ciliata*; and another similar, growing like a hand and fingers, called *Rhodomela palmata*. Then there is a wide-spreading, bright green, thin leaf, crumpled and folded up, and of no particular shape, this is the *Ulva latissima*. Also the CARRAGEEN MOSS which is *Chondrus crispus*. The ditches of fresh water are covered with a light green, slimy looking, hollow, twisted plant called *Solenia intestinalis*, and some or other of the very numerous genus of *Conferva* is found everywhere, they resemble a tuft of hair of various colors, two green ones *Conferva rivularis*, and *Conferva capillaris* are common in ditches and ponds. Many more Sea Weeds than all these may be collected at any place on the sea side in an hour's walk, particularly on both coasts of the mouth of the river Thames, which being exposed to the strong currents of the German ocean, have thrown upon them many of the rarer kinds.

The *Algæ* are used for many purposes, the slimy matter which they contain is very nourishing and strengthening, and in many places is used as food; they are also useful as manure, and when burnt their ashes yield a large quantity of soda, and for this purpose are often collected in immense heaps, and when dried are set fire to,—the ashes are afterwards soaked in water, which dissolves the soda, and then the water is poured off and boiled for a long time, till it gets thick. Being now set aside to cool, the soda settles at the bottom of the vessel. Potass is made in the same way, but with trees and plants that grow on land.

NOTE.—To collect and lay out Sea Weeds is very little trouble. When gathered they may be dried in the sun and put in a bag till a more convenient time for spreading them out;—when this is to be done, wash them well in fresh water, to take out the sand and salt, then of those which are delicate put one at a time into a plate or basin full of water, and there let it spread itself out. Now slip underneath it a piece of white paper, lifting this up very carefully without disturbing the floating plant, it will settle evenly upon the paper, and thus putting these together into a book they will soon become dry. Some of them will stick to the paper, if so, and they are wanted for specimens they must not be torn away, because some of the Sea Weeds are known from others by their sticking to paper or glass, while those similar to them do not.

FUNGUSSES. *FUNGI.*

The Fungi are supposed to be as numerous as all the Flowering Plants together. In Great Britain we have nearly fifteen hundred native Flowering Plants and two thousand Fungi, and these are most varied in form, color, and size. There is the Mushroom and Toad's-tool family, two or three of which are eaten, as the Common Mushroom, *(Agaricus Campestris,)* and the Champignon, *(Agaricus oreades.)* Most of the rest are poisonous, and all of them are like little, round-topped, one-legged tables. The *Agarics* are known by having *gills*, or little partitions across them underneath. Then there is the *Boletus* family, which have holes underneath instead of gills, one of them is called German tinder. The *Pezizas*, about one hundred kinds, shaped like cups; and the *Sphœrias* like little round specks, upon sticks, &c. The MOULD ON BREAD is called *Mucor Mucedo*. The PUFF BALL, so common on the meadows, is *Lycoperdon pratense*. The TRUFFLE grows quite under-ground, and is called *Tuber cibarium*. The MOREL is *Morchella esculenta*. Then almost all plants when dead, and many while living, are covered with spots or powder, or something growing upon them—these are almost all Fungi; and in fact there is no place kept long damp, or where wood is decaying, or any vegetable substance rotting, without some one or other of the Fungi being produced, and these, though often very minute, are highly curious in form, brilliant in color, and well worthy of the most attentive consideration. The damp days of Autumn encourage the growth of the largest number of them, there are few to be found in Winter, but many in the Spring and Summer.

"Oh! look at the strange and the whimsical things,
That among the wild Fungi we find,
And Lichens, and Moss, that like fairy works springs,
If ye love them not all ye are blind."

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ERRATA.

Page 14, line 19—for "Lycopus," read "Lycopsis."
" 57, " 26—omit (See NUTATION in the Introduction.)
" 113, " 1, 2—for "Spartium," read "Cytisus."

THE END.

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